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SIXTEENTH
ANNUAL REPORT
OF THE
STATE INSPECTOR
OF
COAL MINES
1928



BRADFORD-ROBINSON PRINTING CO.
DENVER, COLORADO

1929

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PERSONNEL OF THE COAL MINE INSPECTION DEPARTMENT

JAMES DALRYMPLE, Chief Inspector.....	Denver, Colo.
W. M. LAURIE, Deputy Inspector.....	Trinidad, Colo.
FINLAY McCALLUM, Deputy Inspector.....	Aguilar, Colo.
GEORGE C. DALRYMPLE, Deputy Inspector.....	Walsenburg, Colo.
JAMES W. GRAHAM, Deputy Inspector.....	Lafayette, Colo.
HUGO H. MACHIN, Deputy Inspector.....	Denver, Colo.
THOMAS ALLEN, Deputy Inspector.....	Grand Junction, Colo.
ADA R. TIBBITS, Chief Clerk.....	Denver, Colo.
MAX M. GREENWALD, Assistant Clerk.....	Denver, Colo.

FIELD FORCE AND DISTRICTS

W. M. LAURIE, 512 Ash St., Trinidad, Colo.....	District No. 1
All mines in Las Animas County, except those listed in District No. 2.	
FINLAY McCALLUM, Box 334, Aguilar, Colo.....	District No. 2
Includes the following mines in Huerfano County: Bunker Hill, Ideal, Leader No. 4, Leader No. 5, Lester, Cameron, Pryor, Ravenwood, Torrid, and the following mines in Las Animas County: Berwind, Brodhead, Delagua, Empire, Jewel, Creston, Ludlow, Mutual, Tabasco, Royal, Fawcett, and Kenneth.	
GEORGE C. DALRYMPLE, Box 645, Walsenburg, Colo.....	District No. 3
Includes the following mines in Huerfano County: Ojo Canon, Oakdale, Gordon, Sunnyside, Vesta, Maitland, Pictou, Walsen-Robinson, Alamo, Calumet No. 1, Calumet No. 2, Toltee, Caddell, Kebler No. 2, Pacific and Barbour, and all mines in Fremont County.	
JAMES W. GRAHAM, Lafayette, Colo.....	District No. 4
Includes all mines in Boulder, Routt and Moffat Counties.	
HUGO H. MACHIN, 1009 Lincoln Place, Boulder, Colo.	District No. 5
Includes all mines in Weld, El Paso, Jefferson, Jackson and Elbert Counties.	
THOMAS ALLEN, 560 Hill Ave., Grand Junction, Colo.....	District No. 6
Includes all mines in Archuleta, Delta, Garfield, Gunnison, La Plata, Mesa, Montezuma, Montrose, Ouray, Pitkin, Rio Blanco and San Miguel Counties.	

LETTER OF TRANSMITTAL

Denver, Colorado, April 1, 1929.

To His Excellency,

WILLIAM H. ADAMS,
Governor of Colorado.

Sir: Herewith I have the honor to submit to you, in accordance with Section 27 of an Act entitled "Coal Mining Laws," the Sixteenth Annual Report of this Department.

The period covered began January 1 and ended December 31, 1928.

Respectfully,

JAMES DALRYMPLE,
State Inspector of Coal Mines.

STATEMENT SHOWING RECEIPTS AND DISBURSEMENTS FROM JANUARY 1 TO DECEMBER 31, 1928

RECEIPTS

Tax collected on coal mines.....	\$37,012.86
From sales of copies of the coal mining laws.....	604.50
Sales of old automobiles and refunds.....	2,413.03
Balance brought forward from 1927.....	12,103.85
	<hr/>
Total.....	\$52,134.14

DISBURSEMENTS

Salaries of entire Department.....	\$25,826.00
Expenses, Chief and Deputy Inspectors.....	4,935.73
Fatal accident investigators, per diem and expenses.....	126.00
Mileage books (railroad transportation).....	660.00
Printing	1,346.80
Automobiles, supplies and repairs.....	3,824.98
Postage	534.21
Stationery supplies.....	388.60
Telephone service.....	52.95
Telegraph service	19.87
Instruments	262.84
Express	3.69
Miscellaneous	286.19
Board of Examiners.....	1,434.39
	<hr/>
Total	39,702.25
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Surplus December 31, 1928.....	\$12,431.89

FIELD EQUIPMENT

Four Psychrometers	Five Speedometers
Seven Anemometers	Six Koehler Safety Lamps
Seven Carbon Monoxide Gas Detectors	Three Clinometers
One Geophone	

SUMMARY OF THE COAL PRODUCTION OF COLORADO 1928

Number of mines operated.....	271
Number of new and old mines opened—new mines, 2; old mines re-opened, 10; total.....	12
Number of mines closed, 11; abandoned, 1; total.....	12
Tons of sub-bituminous coal produced.....	2,922,199
Tons of semi-bituminous coal produced.....	473,433
Tons of bituminous coal produced.....	6,455,336
Tons of anthracite coal produced.....	70,617
Total number of tons of coal produced.....	9,921,585
Increase 1928	140,005
Tons of run of mine coal produced.....	2,861,248
Tons of lump coal produced.....	2,671,392
Tons of nut coal produced.....	918,859
Tons of pea coal produced.....	169,847
Tons of slack coal produced.....	3,300,239
Percentage of slack coal produced.....	40.8

Tons of coal mined by hand.....	4,402,084
Tons of coal mined by machine.....	5,519,501
Kind and number of machines used—compressed air, 100; electric, 349; total.....	449
*Tons of coal mined for shipment.....	8,005,626
Tons of coal shipped out of the state.....	2,064,769
Tons of coal sold to local trade and used by employees.....	719,610
Tons of coal used at the mines for steam and heat.....	180,734
Tons of coal made into coke.....	1,265,105
Tons of coke made.....	750,022
Number of days coke ovens were operated.....	340.5
Number of coke ovens used.....	493
Number of men employed at coke ovens.....	208
Number of miners employed—pick, 3,918; machine, 3,605; total.....	7,523
Number of men employed in and about mines (average).....	11,474
Number of employes foreign born.....	7,563
Average number of days worked (man-days).....	187.7
Daily production per miner, tons.....	7
Annual production per miner, tons.....	1,318.8
Number and type of safety lamps used—flame, 904; electric, 8,928; total.....	9,832
Number of carbide lamps used.....	3,584
Number of pounds of carbide used (approximately).....	118,837
Number of pounds of black powder used.....	1,099,999
Number of pounds of permissible powder used.....	917,879
Number of pounds of dynamite powder used.....	43,311
Number of men killed—underground, 34; surface, 1; total.....	35
Number of men injured.....	1,810
Number of men killed per thousand employed.....	3.05
Number of men injured per thousand employed.....	157.75
Number of tons of coal produced for each life lost.....	283,474
Number of tons of coal produced for each non-fatal accident.....	5,482
Number of men killed per million tons of coal produced.....	3.53
Number of men injured per million tons of coal produced.....	182.43
Number of men employed per fatal accident.....	327.8
Number of men employed per non-fatal accident.....	6.34
Number of widows left.....	21
Number of children left fatherless.....	68
Cost of development work in mines during 1928: 113 mines reporting.\$	720,294.00
Number of days lost account of car shortage: 24 mines reporting....	224
Number of tons of coal lost through labor shortage: 18 mines re- porting	109,350

NOTE: The yearly reports of 5 of the above 271 mines were filed too late to embody their combined production of 1,119 tons in the tables of this Annual Report. However, they are included in the Mine Directory or Table No. 1.

NOTE: A number of mines did not report the carbide powder used as same was furnished by employes.

* Note 249,490 tons were made into coke at the mines and therefore not included in coal loaded for shipment.

SIXTEENTH ANNUAL REPORT
OF THE
STATE INSPECTOR OF COAL MINES
1928

The coal industry of Colorado in 1928 shows that two hundred and twenty-four companies and individual operators worked two hundred and seventy-one mines and produced 9,921,585 tons of coal, an increase of 140,005 tons as compared with the tonnage of 1927. The average number of men employed in and about the mines was 11,474, a gain of 21 more men employed than in the year before. The number of man-days worked was 187.7, a loss of 6.6 days in comparison with 1927.

Thirty-five lives were lost in and about the mines during the year, and is the lowest rate per 1,000 employed ever recorded in Colorado, being 3.05. In 1927 the rate was 4.7 per 1,000 employed. Twenty-one widows were left and 68 children made fatherless. Number of men injured was 1,810 or 106 non-fatals less than in the preceding year.

Of the 271 mines only 109 have railroad connection, the other mines depend on the consumers hauling their own supply of coal from the mines, and some have a regular truck service.

Each year finds the large companies concentrating their operations to fewer mines, but in their place numerous small mines open up to meet a temporary local demand and then close again. It is very difficult to keep track of them, because they constantly change operators and the names of the mines, many of them are far from railroads, often inaccessible in the winter time and in the summer are closed.

Five small mines filed their annual reports just as the annual department report was ready for the printer. They are listed at the foot of Table No. 1 and their combined production totaled 1,119 tons. This is not included in the total production given for the year.

The legislature in 1926 passed a law prohibiting the issuing of cloth bound copies of the various annual reports of the State Departments, consequently only paper bound copies of the 1928 or Sixteenth Annual Report will be distributed.

New Mines

The Kurie Coal Mining Company is opening up a property in El Paso County. C. W. Kurie is the manager with offices in Colorado Springs. A shaft has been sunk and the coal bed, which is of sub-bituminous character, is being developed. So far \$40,000 has been expended for shaft and equipment.

A small mine was opened by the Davich Coal Co. in Rugby Canon, Las Animas County. The mine has two slopes pitching 35 degrees to the Walsen coal bed which is about three feet thick and bituminous in character. A gasoline motor hoist has been installed on the surface which hauls one car at a time out of the mine. Mike Davich is the only man working on this property.

The Moffat Coal Company is opening up a new mine near Oak Creek, Routt County, named the Arrowhead. Very little data is available at this time as it is still in the development stage. The geological formation worked is the Mesa Verde and Number Two lower bed is being exploited and belongs to the bituminous variety. It is the intention of this company to make this property a large producer.

Improvements

The following is a brief summary of new equipment installed in the various mines, during the year:

Seven new tipples were built and a number remodeled or repaired. Forty-one new dwelling houses, several bath and wash houses, fan and hoist houses, and blacksmith shops, also five chutes were erected. A chlorinating plant for camp water was installed, also two water systems and a sprinkling pipe line. Six fans, fourteen shaker screens of various sizes, several picking tables, tipple coal crusher, one conveyor, three air compressors, six pumps, five hoists, five boiler stacks, 150 pit cars, 84 sets of pit car trucks, three cutting machines, 450 electric lamps, two electric punchers, two sets of railroad scales, two nut coal washers, several gas, steam and electric engines, two electric generators, a portable electric room hoist and a Goodman short wall machine were purchased and put into working order. Two tramways were built, also a twenty stall and a fifteen stall garage. Several companies reported an expenditure totaling about \$150,000 for mine equipment, but did not enumerate the purchases.

In 1927 the State Legislature amended the Coal Mining Laws by exempting all mines employing not more than five men underground from employing a certified mine foreman and installing a ventilating fan, and to show the unreasonableness of this legislative act the following tables were prepared, and they are self-explanatory.

Year	STATE OF COLORADO					Total No. of Mines State
	Tons of Coal Produced	No. of Men Employed	No. of Fatal Accidents	Killed Per 1000 Employed	Tons Coal Produced Per Fatal Accident	
1913	9,268,939	12,871	110	8.6	84,263	178
1914	8,201,423	10,596	75	7.0	109,352	188
1915	8,715,397	12,563	64	5.1	136,178	199
1916	10,522,185	13,315	44	3.35	239,095	219
1917	12,515,305	13,970	188	13.5	66,571	238
1918	12,658,055	14,374	71	4.94	177,578	249
1919	10,406,543	12,799	91	7.1	114,357	241
1920	12,514,693	13,665	70	5.1	178,781	231
1921	9,141,947	14,164	52	3.6	175,807	249
1922	10,003,610	13,436	74	5.51	135,184	275
1923	10,336,735	13,277	66	4.97	156,617	276
1924	10,501,088	12,703	44	3.48	238,661	271
1925	10,440,387	12,228	57	4.66	183,165	283
1926	10,616,760	11,768	52	4.42	204,168	261
1927	9,781,580	11,453	54	4.7	181,140	266
1928	9,921,585	11,474	35	3.05	283,474	266
Average	10,346,639	12,791	71.8	5.61	144,104	243

Year	MINES EMPLOYING 1 TO 10 MEN, INCLUSIVE					No. of Mines 1 to 10 Men Inclusive
	Tons of Coal Produced	No. of Men Employed	No. of Fatal Accidents	Killed Per 1000 Employed	Tons Coal Produced Per Fatal Accident	
1913	100,356	192	3	15.6	33,452	36
1914	133,216	270	3	11.1	44,405	60
1915	122,719	283	1	3.5	122,719	67
1916	137,957	266	3	11.28	45,986	81
1917	191,715	333	0	.....	.....	80
1918	174,167	358	2	5.6	87,083	86
1919	166,285	380	1	2.6	166,285	95
1920	152,782	270	3	11.1	50,927	82
1921	163,153	378	2	5.29	81,576	105
1922	234,075	514	4	7.78	58,519	130
1923	215,026	453	3	6.62	71,675	143
1924	224,135	446	1	2.24	224,135	138
1925	225,239	485	5	10.31	45,048	152
1926	194,199	422	7	16.59	27,789	130
1927	212,127	555	0	.....	.....	136
1928	232,878	445	1	2.24	232,878	144
Average	192,502	378	2.44	6.46	78,894	104

Year	MINES EMPLOYING 1 TO 5 MEN, INCLUSIVE					No. of Men Employed
	No. of Mines	Tons of Coal Produced	No. of Fatal Accidents	Tons Coal Produced Per Fatal Accident	Killed Per 1000 Employed	
1913	23	42,399	2	21,199	24.4	82
1914	41	50,001	3	16,667	23.26	129
1915	49	50,304	1	50,304	6.94	144
1916	65	70,815	2	35,407	13.89	144
1917	52	71,969	0	.....	.....	129
1918	63	77,058	0	.....	.....	177
1919	72	87,065	0	.....	.....	194
1920	71	94,586	2	47,293	10.64	188
1921	83	94,422	1	94,422	4.59	218
1922	95	98,923	3	32,974	12.05	249
1923	106	112,484	2	56,242	7.91	253
1924	111	120,344	0	.....	.....	256
1925	132	137,780	5	27,556	15.38	325
1926	105	105,506	5	21,101	21.7	230
1927	110	113,674	0	.....	.....	263
1928	116	131,914	1	131,914	3.97	252
Average	81	91,203	1.69	53,375	8.37	202

Mines employing one to five men, inclusive, employed 1.55% of all the men working in and about the mines, produced .88% of the coal produced and killed 2.35% of all the men killed in and about the coal mines of Colorado over a period of 1913 to 1928, inclusive. These figures show in round numbers that they produced about half as much coal per man employed and killed approximately twice as many men as compared with the state as a whole.

The above tables will also show that in 1928 the greatest tonnage was produced per life lost and that the number of killed per thousand employed was the lowest during the last eighteen years.

First Aid to the Injured

I am unable to express my opinion on the importance of First Aid to the injured, further than to say that many, many lives have been saved and a great amount of suffering prevented through First Aid rendered between the time of accident and reaching a doctor. It may also be said that many lives have been lost and great suffering endured through lack of First Aid during the same period of time. In trying to amend the mining laws so that all employes must be trained in First Aid, will say that the coal mine owners object because they claim they cannot use compulsion in First Aid training.

There is no doubt in my mind as to the desire of most of the mine owners to have all of their employes fully trained in First Aid work. However, there are some of them who are indifferent, and take no interest whatever in the matter. There are many

employees also that take no interest whatever in this very humane and important duty.

While not a strong advocate of compulsion, there are cases where, I believe, it is justified, and First Aid is one of them. If I were a mine owner, I would certainly give the man trained in First Aid preference of employment. Complete First Aid training of all employes I believe can be attained by insurance carriers, who it is hoped will demand it in the very near future.

The United States Bureau of Mines Car No. 2, very recently, spent a month or more in Boulder and Weld Counties teaching First Aid and Mine Rescue work and the following is a record of the number of men from the different coal companies who completed the training and from these numbers it is an easy matter to determine the interest taken by the individual companies and their employes.

Mine	Company	Mine Rescue	First Aid
Columbine.....	Rocky Mountain Fuel Co.....	6	18
Standard.....	Rocky Mountain Fuel Co.....	5	8
Industrial.....	Rocky Mountain Fuel Co.....	15	12
Grant.....	Rocky Mountain Fuel Co.....	5	10
Monarch.....	National Fuel Co.....	7	8
Puritan.....	National Fuel Co.....	19	68
Imperial.....	Imperial Coal Co.....	5	8
State.....	Boulder Valley Coal Co.....	4	0
Shamrock.....	Shamrock Coal Co.....	4	8
Clayton.....	Clayton Coal Co.....	1	1
Sterling.....	McNeil Coal Corp.....	13	25
Russell.....	Russell Coal Co.....	4	6
Baum.....	Consolidated Coal & Coke.....	3	8
Liley.....	Liley Coal & Land Co.....	0	8

Those not completing the entire course of First Aid are not included in the totals.

This training costs time and money and unless the mine owners and the employes arrange classes to keep up the interest and practice at least once every month, they will be inside of a year right back where they were prior to the training. Therefore, let us all put our shoulder to the wheel, until every employe in and around the coal mines of Colorado has been fully trained in First Aid and from then on a meeting arranged at every mine every three months will keep us well supplied with First Aid ability.

The operators of Routt County, who have contemplated for the last four years the establishing of a First Aid and Mine Rescue Station in that County, have, I understand, decided that the station will be established and in working order just as soon as the right man can be found to take charge of it.

The operators of Boulder and Weld Counties have had the same question under consideration for several years and I have in my office letters from the different companies operating in those

counties and every one of them is favorable to establishing a central station for First Aid and Mine Rescue Training but it seems they are unable to agree amongst themselves as to the details concerning its location, upkeep, etc. It is hoped that they will observe and follow the example of the Routt County operators as the two counties involved produce more than double the coal tonnage of Routt County.

FIRST AID TO THE INJURED

Activity on the Western Slope

District No. 6 was created in the fall of 1927 and Thomas Allen was assigned as the deputy in charge of the new district.

This district is made up of twelve counties in western Colorado as follows: Archuleta, Delta, Garfield, Gunnison, La Plata, Mesa, Montezuma, Montrose, Ouray, Pitkin and San Miguel.

There are few large mines in this district, for the most part the coal is produced by small operators to supply a local demand; there are about one hundred of these small wagon mines in the district.

Very few of these mines are close to the small towns or settlements which they supply with coal. The average distance away from a town is about 15 miles.

The roads to and from the mines are generally of crude construction, because they are built solely for the purpose of coal hauling.

This is a serious condition in case of an accident causing injury to anyone employed in these mines; for the necessary medical assistance can only be obtained at the nearest town. In some cases the nearest small town may have no resident physician, consequently the nearest medical aid may be from 20 to 30 miles away from the mine.

The transportation of an injured person over the rough roads must necessarily be slow; and in cases of severe injuries the unavoidable delay may result in death, before the patient can get the proper medical attention.

With men trained to give First Aid to the injured this danger is minimized, as such men can apply First Aid dressings and prepare the patient for transportation so that he reaches the physician's office in the best possible condition under the circumstances.

The small, isolated mines, until recently, very rarely had any men in their employ trained in taking care of injured persons, due to the generally inaccessible locations preventing the regular instruction crews of the Federal Bureaus reaching them.

Also the small number of employes did not warrant the individual companies from engaging regular instructors, which is a general practice of the larger operators in the state.

Seeing this condition, Deputy Inspector Allen, who is a trained First Aid instructor, started a movement to personally train the

employees at the small mines, doing this work on his regular inspection trips after working hours at the mines.

From May, 1928, to September, 1928, he fully trained over 150 men in his district and also gave partial instruction to 50 or 60 more. The partial training included the most dangerous injuries such as arterial bleeding, asphyxiation and gas poisoning, serious burns and fractures.

In the larger mines every encouragement was given to a revival of First Aid work.

To create interest and keep up action in this work, Deputy Inspector Allen organized a First Aid contest which was held at Grand Junction September 3, 1928; this demonstration was organized as the first annual event of the Western Colorado Mine Safety and First Aid Association, which all operators and coal miners in the district were invited to affiliate with.

Funds to purchase prizes for the winners of the contest and take care of the expenses of this meeting were provided by voluntary subscriptions from coal companies and individuals interested.

The Chamber of Commerce of Grand Junction, Colorado, gave a handsome silver cup as the chief prize for the winning team.

Eight highly skilled teams competed on the contest. These teams were a fair representation of the different mines in the district.

The winning team was from Camp Genter and Placita mines combined; second place was won by a team from the Somerset mine; third place was taken by a combination team from four small mines near Palisade.

More than one thousand spectators witnessed the contest and the work was highly praised by different laymen experts and attending physicians and surgeons.

This work will be continued and a contest held every year; it is proposed to send the best teams of next year's meet to the International Contest with every hope that a Western Colorado Team will be national champions.

The Coal Mine Inspection Department extends its thanks to all the operators and others who gave their support and co-operation to this educational work.

With such support and co-operation continued, the result will surely be a reduction in accidents in the industry and a better and more progressive spirit among those engaged and interested in the improvement of coal mining.

It gives me great pleasure to be able to say a few words concerning our lignite mines and give credit to the owners for the great improvements made in the sanitary conditions of said mines by eliminating firing of shots during working hours wherever conditions will permit.

Prior to 1913 shots were fired at all times during working hours, which compelled the employees to work in powder smoke and in many cases health was impaired. After 1913 in most mines shots were fired morning, noon and night. During the last two

years great improvement has been accomplished. In Weld County all of the mines employing ten men or more, with the exception of the Columbine, have abolished firing of shots during working hours. In the Sterling mine all shots are fired by certified shotfirers after quitting time. In the Columbine mine the seam has from one to two rock bands in the coal, this making it necessary to fire shots during working hours. All shots fired by certified shotfirers. In Boulder County the seams are thinner than in Weld County, in some instances the whole seam has to be taken to get the necessary height, and wherever this is done, owing to the very tender roof in the lignite fields which requires immediate attention after shooting, it is practically impossible to get away from some shooting during working hours, such shots are being reduced to the minimum and there is a general disposition to continue this work until every shot possible is eliminated during working hours.

The following is a summary of the work done by the field force of this department during the year:

Total inspections made in 1928.....	913
Total number of mines inspected.....	271
Number of fatal accidents investigated by inspectors and special investigators.....	35
Number of inquests attended by inspectors and special investigators	34
Scale inspections	15
Complaints investigated and adjusted.....	36
Prosecutions	None
Miles traveled by auto.....	62,490
Railroad scrip used.....	\$660.00

In conclusion I wish to extend my thanks to the field staff for the loyal support rendered the department, also to the operators for their co-operation in carrying out the recommendations requested by the inspectors.

Respectfully submitted,

(Signed) JAMES DALRYMPLE,
State Inspector of Coal Mines.

CO-OPERATION WITH THE INSPECTION DEPARTMENT OF DISTRICT NO. 6

The new district, No. 6, created in August, 1927, comprising all of the counties on the Western Slope with the exception of Routt and Moffat Counties, with the large number of small mines scattered throughout the territory had, previous to its segregation as a separate district, always had been a difficult problem for detailed inspection and supervision.

The inspection was done by deputy inspectors traveling from the Eastern Slope. A deputy inspector, starting on a trip into any part of the Western Slope, must necessarily travel around 300 miles before getting to that part of the territory he was supposed to inspect. Then the mines, being scattered far and wide, presented a problem of traveling to them individually; this condition was aggravated in bad weather when the wagon roads were nearly impassable.

The somewhat irregular inspection in this area did not get the desired results; and through this condition the general observance of the mining laws was in some cases very lax. In fact, many of the smaller operators had a pronounced antagonism to any safety laws and inspection of their mines by any state official. In the absence of the deputy inspector the state laws were purposely evaded and disobeyed. Especially was this true of the law requiring supervision by properly certified officials.

The most of the smaller operators considered it an imposition and injustice to have to use certified officials in charge of their mines, and in addition to this all safety regulations of mines were regarded as not being applicable to small operations.

This attitude of course was wrong. The life of a miner in a small mine is entitled to the same protection as that of any miner employed in a large mine. In case of accidental death of a married man employed in a small mine, he would leave a widow and possibly orphans the same as is the case of a miner being killed in a large operation.

In fact such a case was generally worse in small mines as most of these mines carried no compensation insurance of any kind. Any dependents left as a result of a fatal accident were practically penniless.

When a new deputy was appointed for District No. 6 individually, and active supervision was instituted, at first a general atmosphere of antagonism, distrust and resentment was prevalent throughout the district.

After a period of one year a complete change of attitude on the part of the operators is the result. With the instruction, help and guidance of the department, the operators are now fully co-operating with the department in an effort for greater safety and efficiency in even the smallest of operations.

The general condition now is that such operators as showed possibly the most intense antagonism welcome the deputy on his

rounds, instead of resenting his presence as before. In between inspection trips there is a continuous correspondence from operators asking the advice and the guidance of the department in proposed changes and development of the mines.

The result is the pioneer coal industry of the Western Slope today shows more stability and regulated effort than ever before.

This general co-operation by the operators has been productive of some very good results.

There are now trained First Aid men capable of taking care of those injured in every mine in the district. Twenty-eight miners from small mines in this area passed the last examination for officials and in most cases now are legally operating their own small mines or a mine in which they have some interest.

An organized effort is being made to keep up interest in First Aid and mine safety work. In this commendable work the operators by voluntary contributions financed a Field Day and First Aid Contest at Grand Junction September 3, 1928; this event to be repeated annually.

More recently the operators in La Plata and Montezuma Counties are financing a movement to purchase equipment to establish a Mine Rescue Station at Durango, Colorado; this is the first collective effort made along these lines in that part of the country.

A similar movement is being made among the small operators in Garfield and Mesa Counties, a Rescue Station will be equipped and maintained at the Cameo Mine, to take care of serious accidents at any of the mines in the two counties.

Miners throughout the district are being specially trained to handle this equipment so that in case of emergency, fully trained crews are immediately available.

With such co-operation of the mine owners we may look forward confidently to the time when District No. 6 will rank as among the safest and most efficient coal mining areas in the Rocky Mountain states.

THOMAS ALLEN,
Deputy State Coal Mine Inspector,
District No. 6.

Minors designated by (*) were filed too late to be listed in their proper places. Table No. 2 omitted.

TABLE No. 3

VENTILATING EQUIPMENT OF COAL MINES IN STATE OF COLORADO FOR THE YEAR ENDING DECEMBER 31, 1923

Name of Operator	Name of Mine	Kind of Opening			Gaseous or Non-Gaseous	Number and Type of Safety Lamp Used		Method of Ventilation	Name of Fan	Diameter Feet	Revolutions Per Minute	Water Gauge Developed, Inches	Kind of Power Used
		Shaft Depth	Slope	Drift Length		Flame	Electric						
		Length	Pitch Degree										
Agallier Coal Co.	Pawcett	1100	4°	Non-Gaseous	1		Fan	Home Made	4	182	2.0		Electric
Alamo Coal Co.	Alamo	2500	17°	Gaseous	12	216	Fan	Vulcan	10	144	3		Electric
American Smelting & Ref. Co.	San Juan	3500	5°	Gaseous	37	37	Fan	Jeffrey	7	425	2.2		Electric
American Smelting & Ref. Co.	Doncarbo	7000	1°	Gaseous	12	300	Fan (12)	Jeffrey	2 1/2 x 5	320	2.6		Gasoline Engine
Amos Coal Co.	Amos	400		Non-Gaseous	1		Fan	Robinson Coniflo	3	324			Electric
Anchor Coal Co.	Anchor No. 1	600	6°	Non-Gaseous			Natural						Electric
Anchor Coal Co.	Anchor No. 2	Not reported		Non-Gaseous			Fan	Silco	3	450			Electric
Anchor Fuel Co.	Anchor	1800		Non-Gaseous	1		Fan	C M & C E	4	300	1.0		Gasoline Engine
Anchor Fuel Co.	Sharon	Not reported		Non-Gaseous									Electric
Astee Coal Mining Co.	Toltee	1250		Gaseous	2	150	Fan	Sirocco	4 1/2 x 3	400	5.0		Electric
Balson Coal Co.	Balson	500	10°	Non-Gaseous	1		Natural						Gasoline Engine
Bainton, John	Walter	220		Non-Gaseous	1		Natural						Electric
Baldwin Fuel Co.	Baldwin Star	1600		Non-Gaseous	1		Natural						Electric
Barbour Coal Co.	Alamo No. 2	2114	17°	Gaseous	8	132	Fan	Vulcan	7	108	1.5		Electric
Barker, Wright	Wright	500	Steep	Non-Gaseous	1		Natural						Gasoline Engine
Barnell Geo M.	Marr	1600	86°	Non-Gaseous	1		Natural	Home Made	5 1/2	180			Electric
Baudino & Co.	Morning Star	3000		Gaseous	4	165	Fan	Card	11 x 3 1/2	91			Electric
Bear Canon Coal Co.	Bear Canon No. 6	210	47°	Non-Gaseous	1		Natural						Electric
Bellodi, Angelo	Bradlee	2000		Gaseous	1	50	Fan		2	170			Electric
Black Canon Coal & Fuel Co.	Black Diamond	300	10°	Non-Gaseous	1		Fan		4	150			Electric
Black Diamond Fuel Co.	Black Diamond	1100		Non-Gaseous	1		Fan	American	2 1/2	160			Electric
Bluff Springs Coal Co.	Bluff Springs No. 2	15	6°	Non-Gaseous	1		Natural	Sturtevant	8	160			Electric
Bogalio Coal Co.	Pickford	340		Gaseous	1	6	Fan	Ajax	6	300			Steam and Electric
Boulder Valley Coal Co.	Boulder Valley	100		Non-Gaseous	1		Natural						Electric
Braden, O.	Braden	220		Non-Gaseous	1		Natural						Steam
Brown Mark	Flag	210		Non-Gaseous	1		Fan	Home Made	6	256			Electric
Burnhill Fuel Co.	Burnhill	3000	3 1/2°	Gaseous	5	150	Fan	Silco	5	256			Electric
Callente Coal Co.	Callente	2400	5°	Gaseous	3	88	Fan	Silco	5 1/2	422	4		Electric
Calumet Fuel Co.	Calumet	1400	3°	Gaseous	3	180	Fan	Jeffrey	18 x 5	75	1.2		Electric and Steam
Calumet Fuel Co.	Calumet No. 1	5000	5°	Gaseous	65	330	Fan	Jeffrey	4 x 8	215	2.4		Electric
Calumet Fuel Co.	Calumet No. 2	3200	3 1/2°	Gaseous	105	100	Fan	Jeffrey	3 x 7	145	1.0		Electric
Cambro Coal Co.	Cambro	Not reported		Non-Gaseous									Electric
Canon Coal M. Co.	Canon	1200		Non-Gaseous	1		Fan						Electric
Canon District Coal Co.	Canon District No. 2	650	10°	Non-Gaseous	1		Fan	Coniflo	1	1300	6		Electric
Canon Imperial Coal Co.	Canon Imperial	700		Non-Gaseous	1		Fan	Silco	3	350			Electric
Canon Quality Coal Co.	South Street	1100	5.6°	Non-Gaseous	1		Fan	Silco	6	300			Electric
Canon-Rellish Coal Co.	Canon Wolf Park	1044		Non-Gaseous	5		Fan	Jeffrey	6	350	2 1/2		Electric
Carroll, Paul	Willie No. 1	300		Non-Gaseous	1		Fan	Crawford & McCrimmon	12	120			Steam
Centennial Coal Co.	Centennial	266	2°	Gaseous	3		Fan	Home Made	5	300			Gasoline Engine
Champion Coal M. Co.	Champion	200	14°	Non-Gaseous	1		Fan						Electric
Chargo, Tom	Chargo	314	90°	Non-Gaseous	1		Fan (2)	Jeffrey	12	100			Steam and Electric
Clayton Coal Co.	Clayton	400		Gaseous	189	249	Fan	Vulcan	6	250	4 1/2		Electric
Colorado Fuel & Iron Co.	Rockvale No. 2	6000	6°	Non-Gaseous	2		Fan	C F & I Make	10	155	2.7		Electric
Colorado Fuel & Iron Co.	Nonne	7000	7°	Gaseous	6	153	Fan	C F & I Make	10	134	1.0		Steam
Colorado Fuel & Iron Co.	Created Butte	5000		Gaseous	17	201	Fan	Capelle	12	160	1.7		Steam
Colorado Fuel & Iron Co.	Robinson No. 1	5000		Gaseous	7	201	Fan	Capelle	13 x 0	170	2.2		Electric
Colorado Fuel & Iron Co.	Robinson No. 2	5000		Gaseous	7	201	Fan	Capelle	13 x 0	174	1.7		Electric
Colorado Fuel & Iron Co.	Lesler	6400	5°	Gaseous	6	245	Fan	Jeffrey	5	165	3.7		Electric
Colorado Fuel & Iron Co.	Pleasant	6500	8°	Gaseous	6	224	Fan	Sirocco	7	265	3.1		Electric
Colorado Fuel & Iron Co.	Camerton	8300	4°	Gaseous	16	175	Fan	Jeffrey	6	238	2.7		Electric
Colorado Fuel & Iron Co.	Ideal	6000		Gaseous	6	191	Fan	C F & I Make	6 x 12	124	1.3		Electric
Colorado Fuel & Iron Co.	Kehler No. 2	5000	26°	Gaseous	9	137	Fan	Jeffrey	6	415	1 1/2		Steam
Colorado Fuel & Iron Co.	Morley	8000	20°	Gaseous	9	542	Fan (2)	Sirocco	14	480	1		Steam
Colorado Fuel & Iron Co.	Frederick	13000		Gaseous	20	462	Fan	Capelle	18	386	3.6		Electric and Steam
Colorado Fuel & Iron Co.	Toller	350		Gaseous	10	355	Fan	Jeffrey	11	207	2.5		Electric
Colorado Fuel & Iron Co.	Tobacco	6000	5°	Gaseous	12	224	Fan	Jeffrey	7	340	1.2		Electric and Steam
Colorado Fuel & Iron Co.	Herwald	14000		Gaseous	11	240	Fan	C F & I Make	12	246	1.7		Electric and Steam
Colorado Fuel & Iron Co.	Sopris	Not reported	Mine closed	Non-Gaseous									Electric
Colorado Springs Co.	City Coal Mines	2100	20°	Non-Gaseous	1		Fan	Sirocco	4	180	1/2		Electric
Colorado & Utah Coal Co.	Harris	4260	9°	Gaseous	8	325	Fan	Olumwa	14	132	1.2		Electric and Steam
Consolidated Coal & Coke Co.	Baum	200		Non-Gaseous	3		Fan	Crawford & McCrimmon	16	80			Steam
Converse, Frank	Converso	700		Non-Gaseous			Natural						Electric
Corley, W. D.	Corley	412		Non-Gaseous	1		Fan		7	500			Steam
Cottonwood Coal Co.	Cottonwood	125	30°	Non-Gaseous	1		Natural						Electric
Cox Coal Co.	Cox	70	21°	Non-Gaseous	1		Natural						Electric
Crested Butte Anthracite M. Co.	Smith Anthracite	3100	8°	Non-Gaseous	1		Fan	Waddle	16	48			Steam and Electric
Crested Butte Coal Co.	Bulkeley No. 2	1400	8°	Non-Gaseous									



TABLE NO. 4

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1928.

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)			Permissible Explosives
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite		
Agular Coal Co.	Fawcett		5	817		817				60
Alamo Coal Co.	Alamo			8,477	60,830	89,307				20,691
American Smelting & Ref. Co.	San Juan			33,772		33,772				3,345
American Smelting & Ref. Co.	Boncarbo	1	8	72,513	120,205	192,718		420		26,150
Amos Coal Co.	Amos			179		479	500			
Anchor Coal Co.	Anchor No. 1			210		210				
Anchor Coal Co.	Anchor No. 2			159		159	200			
Anchor Fuel Co.	Anchor			20,728		20,728				3,600
Anchor Fuel Co.	Baldy			1,745		1,745				200
Associated Fuel Co.	Sharon			4,129		4,129				
Aztec Coal Mining Co.	Toltec		6	9,550	43,378	52,928		710		5,375
Babson Coal Co.	Babson			2,264		2,264	2,200			
Balinton, John	Waller			95		95	100			
Baldwin Fuel Co.	Baldwin Star			1,730		1,730				
Barbour Coal Co.	Alamo No. 2	4	4		76,955	76,955		1300		17,775
Barker, Wright	Wright			1,177		1,177				
Barnell, Geo. M.	Marr			2,040		2,040	575	10		
Baudino & Co.	Morning Star			3,900		3,900	2,500			
Bear Canon Coal Co.	Bear Canon No. 6			15,735	49,401	65,136	1,000			
Belldell, Angelo	Paradise	6		231		231	450	50		6,250
Black Canon Coal & Fuel Co.	Caddell	2			2,227	2,227				200

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TABLE NO. 4—Continued
MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED
DECEMBER 31, 1928.

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible
Black Diamond Coal Co.	Black Diamond	.....	3	8,738	26,533	8,738	1,250	200	.....
Black Diamond Fuel Co.	Black Diamond	.....	1	500	17,803	26,533	8,500	875	.....
Bluff Springs Coal Co.	Bluff Springs No. 2	.....	.....	1,133	.....	18,303	5,187	.....	600
Boaglio Coal Co.	Pickford	.....	6	.....	303,500	1,133	51,493	.....	3,000
Boulder Valley Coal Co.	Boulder Valley	6	9	.....	.....	303,500	.....	.....	.....
Braden, O.	Braden	.....	.....	300	.....	300	1,375	.....	.....
Brown, Mark	Flag	.....	.....	118	.....	118	.....	.....	.....
Burnittall Fuel Co.	Burnittall	.....	.....	1,597	.....	1,597	750	.....	.....
Caliente Coal Co.	Ravenwood	6	2	20,406	38,317	58,723	.....	150	13,467
Caliente Coal Co.	Maitland	.....	.....	1,135	27,359	28,494	.....	.....	2,450
Calumet Fuel Co.	Somerset	.....	5	152,047	20,989	173,036	.....	.....	16,400
Calumet Fuel Co.	Calumet No. 1	.....	10	45,595	162,461	208,056	.....	.....	34,549
Calumet Fuel Co.	Calumet No. 2	.....	6	2,154	78,970	81,124	.....	.....	22,602
Cambro Coal Co.	Cambro	.....	.....	482	.....	482	.....	.....	.....
Canon Coal Mining Co.	Brewster	.....	1	.....	3,769	3,769	.....	.....	.....
Canon District Coal Co.	Canon District No. 2	.....	1	.....	2,857	2,857	525	100	.....
Canon Imperial Coal Co.	Canon Imperial (Carbon)	.....	1	.....	12,501	12,501	.....	.....	.....
Canon Quality Coal Co.	South Magnet	.....	1	.....	2,428	2,428	1,250	.....	500
Canon Reliance Coal Co.	Canon (Wolf Park)	.....	4	.....	70,359	70,359	16,750	.....	1,500
Carestia, Paul	Willie No. 1	.....	.....	705	.....	705	250	.....	.....
Centennial Coal Co.	Centennial	10	1	540	70,122	70,662	10,714	.....	895

Champion Coal Co.	Peerless	7,391	2,400	7,991	2,400
Chergo, Tom	Chergo	92	75	92	75
Clayton Coal Co.	Clayton	6,952	223,529	230,481	70,000
Colorado Fuel & Iron Co.	Rockvale No. 2	127,037		127,037	2,289
Colorado Fuel & Iron Co.	Nona	2	32,374	32,374	7,026
Colorado Fuel & Iron Co.	Crested Butte	83,998		83,998	8,923
Colorado Fuel & Iron Co.	Robinson No. 1	23,008	140,486	163,494	23,109
Colorado Fuel & Iron Co.	Robinson No. 2	63,885	56,613	120,498	10,601
Colorado Fuel & Iron Co.	Lester	154,194		154,194	7,002
Colorado Fuel & Iron Co.	Pictou	32,725	195,758	139,483	17,833
Colorado Fuel & Iron Co.	Cameron	10	86,908	129,131	15,730
Colorado Fuel & Iron Co.	Ideal	113,171		113,171	31,749
Colorado Fuel & Iron Co.	Kebler No. 2	71,765		89,094	16,240
Colorado Fuel & Iron Co.	Morley	491,111		491,111	3,000
Colorado Fuel & Iron Co.	Frederick	2	30,089	434,585	113,588
Colorado Fuel & Iron Co.	Toller	209,749	85,896	285,445	27,218
Colorado Fuel & Iron Co.	Tabasco	161,898	121,227	233,125	31,072
Colorado Fuel & Iron Co.	Berwind	4	6,489	18,991	1,634
Colorado Fuel & Iron Co.	Sopris	11,266		11,266	2,707
Colorado Springs Co.	City Coal Mine	2	31,833	48,519	200
Colorado & Utah Coal Co.	Harris	8	166,588	209,175	29,395
Consolidated Coal & Coke Co.	Baum	7	112,109	112,109	40,675
Converse Frank	Converse	341		341	
Converse, W. D.	Converse	558	39,415	40,003	10,000
Cottonwood Coal Co.	Cottonwood	907		907	875
Cox Coal Co.	Cox	407		407	350
Crested Butte Anthracite M. Co.	Smith-Anthracite	1	7,206	23,324	4,000
Crested Butte Coal Co.	Bulkeley No. 2	51,612		51,612	30,849
Crown Mining Co.	Crown	6	5,215	5,214	1,625
Crumpley Coal Co.	Crumpley	125		125	
Cushman, G. B.	Mesa Verde	1,086		1,086	250
Danville Coal Co.	Climax	1,140		1,140	120
Davich Coal Co.	Davich	456		456	
Davidson, W. C.	Mitchell	320		320	10
Deboy, Frank	Ohkrant	563		563	500
DeGraffenried, J. R.	DeGraffenried	200		200	100
Dick Coal Co.	Ojo Canon	3	5,241	16,021	3,000
Dick Coal Co.	Dix	3,798	46,760	50,558	8,050

TABLE NO. 4—Continued
 MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED
 DECEMBER 31, 1928.

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible Explosives
Domenico, S., & Sons, Inc.	Paramount	5	...	...	21,473	21,473	45,000	...	...
Domestic Coal Co.	Gorham	1	...	...	5,388	5,388	2,000	...	...
Double Dick Coal Co.	Double Dick	...	2	...	14,494	14,494	...	...	...
Drennan Coal Co.	Drennan	...	...	2,500	...	2,500	...	...	...
Durango Coal Co.	Durango	...	...	10,947	...	10,947	...	...	...
Edna Coal Co.	Arthur	...	...	1,258	...	1,258	1,250	...	1,450
Electric Coal Co.	Oldland	...	...	1,532	...	1,532	1,000	...	...
Electric Coal Co.	Black Diamond	...	...	1,933	...	1,933	1,375	...	...
Empire Coal Mining Co.	Empire	...	...	63,447	...	63,447	...	50	1,800
Estep, Frank	Spencer	...	...	240	...	240	...	...	...
Eversman Coal Co.	Eversman	3	...	...	5,615	5,615	2,000	...	...
Excelsior Coal Co.	Excelsior	...	...	581	...	581	...	...	...
Farmers Mutual Coal Co.	Farmers-Mutual	...	...	2,717	...	2,717	3,000	50	...
Fields & Wertz	Hart	...	...	2,730	...	2,730	1,250	...	...
Fitzsimmons, E. A.	Berry	...	...	885	...	885	...	...	...
Foreman, Thos. D.	Nine Mile	...	...	417	...	417	325	...	...
Fraker Coal Co.	Rear River	...	2	31,169	26,861	58,030	...	...	...
Franklin Coal Co.	Witherbee	...	...	...	2,452	2,452	...	...	...
Franz, G. H.	Pearcock	...	...	385	...	385	125	...	...
Fruth & Micheletti	Premium	...	...	1,413	...	1,413	800	400	100
Fruth & Stone	Leader No. 4	...	...	3,942	...	3,942	...	...	...

Fruth & Stone.....	Leader No. 5.....	4,033.....	4,033.....	75.....	1,000.....	600.....	1,400.....
Radberry, R. V.....	G. and G.....	187.....	187.....	150.....	500.....	500.....	500.....
P. V.....	Gearhart, B.....	2,964.....	2,964.....	5,947.....	500.....	500.....	500.....
Gilmore & Phillips.....	Garfield.....	5,947.....	5,947.....	10,015.....	500.....	500.....	500.....
Gibson Asphaltum Co.....	Carbonera.....	10,015.....	10,015.....	150.....	500.....	500.....	500.....
Gingrich, Albert.....	Gingrich.....	150.....	150.....	8,563.....	675.....	1,550.....	2,000.....
Giuliano Coal Co.....	Bluff Springs No. 1.....	1,534.....	1,534.....	4,367.....	3,500.....	3,500.....	3,500.....
Golden Dawn Coal Co.....	Golden Dawn.....	2,000.....	2,000.....	54,801.....	2,000.....	2,000.....	2,000.....
Good Fuel Co.....	Christensen.....	3,850.....	3,850.....	156.....	450.....	450.....	450.....
Gordon Coal Co.....	Gordon.....	5.....	5.....	993.....	150.....	150.....	150.....
Grassi & Grasso.....	Grassi.....	156.....	156.....	7,188.....	2,600.....	2,600.....	2,600.....
Graves, L. C., Coal Co.....	Sunlight.....	993.....	993.....	7,892.....	1,850.....	1,850.....	1,850.....
Green Valley Coal Co.....	Green Valley.....	2,000.....	2,000.....	1,270.....	1,125.....	1,125.....	1,125.....
Griffiths Coal Co.....	Griffiths.....	1,270.....	1,270.....	500.....	1,250.....	1,250.....	1,250.....
Hale & Corda.....	Rosser.....	500.....	500.....	654.....	100.....	100.....	100.....
Happy Canon Coal Co.....	Happy Canon.....	654.....	654.....	158,890.....	52,725.....	52,725.....	52,725.....
Hauert, Karl.....	Valley View.....	70,910.....	70,910.....	860.....	500.....	500.....	500.....
Hayden Bros. Coal Corp.....	Hayden No. 3.....	860.....	860.....	1,232.....	200.....	200.....	200.....
Henderson, John H.....	Soda Springs.....	1,232.....	1,232.....	2,074.....	800.....	800.....	800.....
Hidden Treasure Mining Co.....	Hidden Treasure.....	2,074.....	2,074.....	6,886.....	6,000.....	6,000.....	6,000.....
Highland Utilities Co.....	Cortez.....	137.....	137.....	81,738.....	200.....	200.....	200.....
Hollingsworth, John.....	Ferrell.....	137.....	137.....	210,432.....	64,331.....	64,331.....	64,331.....
Home Fuel & Supply Co.....	Bowen.....	6,386.....	6,386.....	2,211.....	625.....	625.....	625.....
Hopper, H. E.....	Keck.....	532.....	532.....	800.....	750.....	750.....	750.....
Huerfano Coal Co.....	Ludlow.....	53,704.....	53,704.....	339.....	339.....	339.....	339.....
Hunt, William M.....	Hunt.....	200.....	200.....	5,057.....	1,100.....	1,100.....	1,100.....
Imperial Coal Co.....	Imperial.....	1,414.....	1,414.....	55,852.....	25.....	25.....	25.....
Independent Coal Co.....	Independent.....	800.....	800.....	600.....	100.....	100.....	100.....
Indian Creek Coal Mining Co.....	Indian Creek (Coalview).....	339.....	339.....	124.....	100.....	100.....	100.....
Jakino Coal Co.....	Jakino.....	339.....	339.....	45,306.....	3,750.....	3,750.....	3,750.....
Jeffries Fuel Co.....	Jeffries.....	5,057.....	5,057.....	36,121.....	4,683.....	4,683.....	4,683.....
Jewell Collieries Corp.....	Creston.....	11,030.....	11,030.....	25,611.....	2,049.....	2,049.....	2,049.....
Jonger Coal Co.....	Boshear.....	600.....	600.....	1,100.....	4,985.....	4,985.....	4,985.....
Jones & Trachta.....	Douglas Creek.....	124.....	124.....	100.....	100.....	100.....	100.....
Juanita Coal & Coke Co.....	King.....	45,306.....	45,306.....	3,750.....	3,750.....	3,750.....	3,750.....
Keystone Coal Co.....	Keystone.....	10,510.....	10,510.....	2,049.....	2,049.....	2,049.....	2,049.....

•Not in use.

TABLE NO. 4—Continued

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1928.

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible Explosives
Knez, Joe L.....	Knez.....	.....	.....	942	.....	942	2,000	.....	.....
Leyden Lignite Co.....	Leyden No. 3.....	.....	2	9,267	83,406	92,673	29,050	.....	.....
Liberty Coal & Mining Co.....	Nearing.....	.....	.....	382	.....	382	.....	.....	.....
Liley Coal & Land Co.....	Liley.....	4	1	.....	38,359	38,359	12,400	.....	.....
Liley Coal & Land Co.....	Frederick.....	4	.....	.....	16,732	16,732	7,250	.....	.....
Lion Canon Coal Co.....	Lion Canon.....	.....	.....	1,150	.....	1,150	200	.....	600
McGinley Coal Co.....	McGinley.....	.....	.....	1,985	.....	1,985	1,750	.....	.....
McMillin Bros.....	Rollins.....	.....	.....	150	.....	150	.....	.....	.....
McNeil Coal Corp.....	Cameo.....	6	.....	29,903	80,529	110,432	.....	400	14,700
McNeil Coal Corp.....	MacGregor.....	5	.....	.....	26,763	26,763	4,608	.....	.....
McNeil Coal Corp.....	Sterling.....	.....	3	4,378	89,539	93,917	18,225	.....	.....
Mancos Coal & Fuel Co.....	School Section Lease.....	.....	.....	2,824	.....	2,824	1,000	.....	.....
Manning, O. V.....	Manning.....	.....	.....	115	.....	115	.....	.....	.....
Marriott, Wm.....	Marriott.....	.....	.....	190	.....	190	250	.....	.....
Marsh, Ralph.....	Fisher's Peak.....	.....	.....	161	.....	161	.....	.....	.....
Martin, Ed.....	Martin.....	.....	.....	150	.....	150	150	.....	.....
Martinez, Rafael.....	Martinez.....	.....	.....	254	.....	254	.....	.....	.....
Mascot Coal, Oil & Clay Co.....	Mascot.....	.....	.....	1,475	.....	1,475	1,000	.....	.....
Mathews, John, Jr.....	Blue Spruce.....	.....	.....	188	.....	188	500	.....	100
Mattivi, Steve, & Sons.....	Bunker Hill.....	.....	.....	800	.....	800	.....	.....	25
Merlino & Moschetti.....	Newlon.....	.....	.....	908	.....	908	200	350	50

Midwest Coal Co.	Midwest.....	1	56,987	1,513	1,513	25,965	1,002	150
Moffat Coal Co.	Oak Hills No. 1	3	52,425	42,644	99,631	25,963	1,529	10,672
Moffat Coal Co.	Oak Hills No. 2	6	5,629	47,989	100,414	1,850	6,250	10,980
Moffat Coal Co.	Arrowhead				5,629			3,850
Moffat Co., Pinnacle Coal Co.	Evans (Eberle)	1						
Morgan, W. M.	La Belle		1,784	1,347	1,347	350		400
Morris, Geo. W.	Morris		600		1,784	1,000	300	
Morris, J. A.	McKee		150		150	275	20	
Mutual Coal Co.	Mutual		47,955		47,955	†	†	†
Mutual Coal Co.	Walker		1,000		1,000	500		
National Fuel Co.	Monarch No. 2	12	934	110,754	111,688	45,082		2,358
National Fuel Co.	Thor	2	39,613	21,018	60,631	155,000		6,772
National Fuel Co.	Puritan	7	667	355,911	356,578			
New Castle Coal Co.	New Castle		4,277		4,277		6,500	
New Grand Mesa Coal Co.	Winger	1		4,454	4,454	550		
New Mexico Lumber Co.	North Star		8,354		8,354	9,500	200	
North Park Coal Co.	Moore No. 1	2	5,093	59,379	64,472	30,000		1,000
Nossaman, W. J.	Nossaman		108		108	250		
Oakdale Coal Co.	Oakdale		67,170		67,170			12,368
Oberding, Wm. J.	Independence	1		611	611	250		
Ohio Creek Coal Co.	Ohio Creek	1		11,132	11,132	3,125		
O. K. Coal Co.	O. K.		7,654		7,654	2,550		
Oliver Coal Co.	Oliver		29,756		29,756			8,850
Oreochlo Coal Co.	Brookside	1		6,929	6,929	3,000		
Owens, R. & Sons.	Owens		376		376	25		
Pacific Coal Mining Co.	Pacific	2		16,565	16,565			1,110
Palisade Coal & Supply Co.	Palisade	2		19,188	19,188			3,000
Paonia Farmers Coal Co.	Paonia		3,955		3,955	375		200
Patton, Lloyd L.	Red Canon		3,244		3,244	200		
Peacock Coal Co.	Peacock		396		396	250		
Peavy, S. L.	Fairfield		500		500	625		50
Peerless Coal Co.	Peerless		346		346			
Perfino Coal Co.	North Magnet	1		1,865	1,865	1,125	700	
Petry, Sam	Willie No. 2		931		931	150		
Pikes Peak Fuel Co.	Pikeview	7	85,694	160,177	245,871			
Pikes Peak Fuel Co.	Altitude		12,115		12,115			50
Pine River Coal Co.	Pine River		374		374	1,000		1,000
Pinnacle-Kemmerer Fuel Co.	P-K No. 1	1	20,526	27,318	47,844	10,392		

TABLE NO. 4—Continued

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED DECEMBER 31, 1928.

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible Explosives
Pittsburgh Coal Co.....	Pittsburgh.....	1	.....	.....	1,664	1,664	1,225	.....	4,008
Placita Coal Mining Co.....	Placita (Hughes).....	.....	.....	16,198	.....	16,198	.....	.....	4,000
Prairie Coal Mining Co.....	Prairie Canon.....	.....	.....	23,048	.....	23,048	.....	.....	.....
Prewitt & Skinner.....	Cook.....	.....	.....	166	.....	166	.....	.....	.....
Pryor Coal Mining Co.....	Pryor.....	.....	3	18,550	21,360	39,910	.....	50	3,400
Rapid Creek M. T. & P. Co.....	Genter.....	*2	.....	5,057	.....	5,057	.....	.....	200
Rauman Coal Co.....	Rauman.....	*.....	1	2,337	.....	2,337	2,000	300	500
Rehnau, A.....	Rehnau.....	.....	.....	136	.....	136	.....	.....	.....
Rice, Chas., & Sons.....	Pleasant Valley.....	.....	.....	243	.....	243	550	.....	20
Richards, C. H.....	Little Bear.....	.....	.....	429	.....	429	200	.....	.....
Richardson, Dan.....	Shamrock.....	.....	.....	641	.....	641	144	.....	24
Rife Coal Co.....	McLearn (Spurling).....	.....	.....	3,459	.....	3,459	.....	.....	1,500
Riffe Coal Mines, Inc.....	North Canon.....	.....	.....	5,719	.....	5,719	.....	.....	2,500
Ritchneg, John.....	Ritchneg.....	.....	.....	630	.....	630	625	.....	.....
Riverside Coal Co.....	Riverside.....	.....	.....	2,892	.....	2,892	250	1,000	.....
Rochio Coal Co.....	Rochio.....	.....	1	.....	2,800	2,800	.....	.....	146
Rocky Mountain Fuel Co.....	Industrial.....	.....	10	16,385	64,107	80,492	375	.....	15,293
Rocky Mountain Fuel Co.....	Vulcan.....	4	.....	6,228	55,194	61,422	1,225	.....	18,851
Rocky Mountain Fuel Co.....	Standard.....	6	.....	2,453	23,610	28,063	2,266	.....	32,360
Rocky Mountain Fuel Co.....	Acme.....	9	1	213	13,559	13,772	2,008	.....	42
Rocky Mountain Fuel Co.....	Alpine.....	.....	1	21,903	12,677	34,580	8,100	.....	1,847

Rocky Mountain Fuel Co.	Forbes No. 9	13,902	165,403	13,902	50
Rocky Mountain Fuel Co.	Columbine	147,751	75,745	313,151	80,200
Rocky Mountain Fuel Co.	Grant	1,127		76,872	13,461
Ross Coal Co.	Horace	41,232		41,232	5,900
Royal Fuel Co.	Royal	108,041		108,041	425
Royers, J. S.	Royers	335		335	
Russell, W. E., Coal Co.	Russell	3,000	79,857	82,857	500
Santa Fe Coal Co.	Santa Fe	3,175		3,175	
Seven Points Coal Co.	Seven Points	568		568	
Shamrock Coal Co.	Shamrock		101,588	104,588	
South Canon Mine Leasing Co.	South Canon	6,897		6,897	1,850
Sphinx Coal Co.	La Plante		4,072	4,072	100
S. and S. Coal Co.	S. and S.	276		276	
Star Coal Co.	Cuckoo		3,000	3,000	850
States Hall Coal Co.	Red Mountain	2,553		2,553	
States Hall Coal Co.	States	1,856		1,856	50
Stokes, W. D.	Stokes	3,868		3,868	
Stove Canyon Mining Co.	Stove Canyon	2,762		2,762	500
Strong Coal Mining Co.	Sunnyside		14,896	14,896	100
Sunrise Coal Co.	Sunrise	745		745	1,000
Sunshine Coal Co.	Sunshine	5,117		5,117	
Taylor, Chas. H.	Square Deal	350		350	
Temple Fuel Co.	Brookhead No. 9	51,473	77,210	128,683	24,000
Thomas Coal Co.	Thomas	380		380	50
Three Pines Coal Co.	Three Pines	8,528		8,528	800
Tipotsch Coal Co.	Tipotsch	1,379		1,379	
Torrid Coal Co.	Torrid	16,789		16,789	6,527
Traynor, W. S.	Arlen	248		248	50
Triangle Coal Co.	Triangle	5,302		5,302	
Trout Creek Coal Co.	Trout Creek	824		824	
Uto Coal Co.	Collom	769		769	
Valdez-Abeyta Coal Co.	New Congo	209		209	
Vesta Mines, Inc.	Vesta		6,344	6,344	600
Vickers Coal Co.	Kenneth	19,488	45,473	64,961	12,000
Vigil, Jose S.	Vigil	236		236	100
Victor-American Fuel Co.	Chandler	336	162,108	162,444	31,200
Victor-American Fuel Co.	Delagua	294,643	139,603	434,246	20,816
Victor-American Fuel Co.	Pinnacle	72,566	53,627	126,193	1,575
				47,525	350

TABLE NO. 4—Continued

MINING MACHINES AND EXPLOSIVES USED AT COAL MINES IN THE STATE OF COLORADO FOR YEAR ENDED
DECEMBER 31, 1928.

Name of Operator	Name of Mine	Mining Machines		Coal Mined by (Short Tons)			Explosives Used (Pounds)		
		No. Operated by Compressed Air	No. Operated by Electricity	Hand	Machine	Total	Black Powder	Dynamite	Permissible Explosives
Victor-American Fuel Co.	Wadge	.....	5	11,814	47,355	59,169	17,210	.....	1,300
Wallihan, A. G.	Sweeney	.....	.....	230	.....	230	.....	.....	.....
Wellington Mining Co.	Wellington	.....	1	4,941	4,000	8,941	.....	.....	1,600
White Ash Coal Co.	White Ash	.....	.....	1,282	.....	1,282	7,000	.....	.....
Whitlock, E. E.	Whitlock	.....	.....	189	.....	189	375	.....	.....
Willden, Elliott	Willden	.....	.....	575	.....	575	375	.....	.....
Williams Coal Co.	Williams	.....	.....	2,224	.....	2,224	1,560	.....	50
Wilson, Jas.	Engle	.....	.....	4,302	.....	4,302	.....	.....	.....
Wilton Coal Co.	Pritchard	.....	.....	637	.....	637	.....	.....	.....
Winton Coal Co.	Winton	.....	.....	477	.....	477	300	.....	.....
Wisconsin Coal Co.	Wisconsin	.....	.....	260	.....	260	225	.....	.....
		100	349	4,402,084	5,519,501	9,921,585	1,099,999	43,311	917,879

* Not in use.

† No explosives.

‡ For rock drilling.

TABLE NO. 6†

PRODUCTION AND DISTRIBUTION OF COAL FROM ALL THE MINES
IN THE STATE OF COLORADO FOR THE YEAR ENDING
DECEMBER 31, 1928

Total Production Distributed	Loaded at Mines for Shipment	Sold to Local Trade and Used by Employees	Used at Mines for Steam and Heat	Coal Made into Coke	Coke Made
9,921,585	8,005,626	719,610	180,734	*1,265,105	750,022

*NOTE—249,490 tons of coal were made into coke at the mine and therefore not included in coal loaded at mines for shipment.

† Table No. 5 omitted.

TABLE NO. 7

NUMBER INJURED IN COAL MINES DURING THE CALENDAR YEAR
ENDING DECEMBER 31, 1928

CAUSES	Permanent Partial Disability	Temporary Disability		Total Injuries
		Time Lost More Than 14 Days	Time Lost Less Than 14 Days	
Underground—				
1. Falls of roof (coal, rock, etc.).....	6	219	128	353
2. Falls of face or pillar coal.....	---	125	82	207
3. Mine cars and locomotives.....	9	269	131	409
4. Gas explosions and burning gas.....	---	2	1	3
5. Coal-dust explosions (including gas and dust combined)	---	---	---	---
6. Explosives	---	3	---	3
7. Suffocation from mine gas.....	---	---	1	1
8. Electricity	---	4	3	7
9. Animals	---	28	25	53
10. Mining machines.....	6	56	42	104
11. Mine fires (burned, suffocated, etc.).....	---	---	---	---
12. Other causes	11	239	262	512
In Shaft—				
13. Falling down shafts or slopes.....	---	---	---	---
14. Objects falling down shafts or slopes.....	---	1	---	1
15. Cages or skips.....	---	1	1	2
16. Other causes.....	1	4	1	6
Total number injured in mine.....	33	951	677	1,661
On Surface—				
17. Mine cars and mine locomotives.....	---	16	11	27
18. Electricity	---	---	---	---
19. Machinery	1	12	11	24
20. Boiler explosions or bursting steam pipes	---	2	---	2
21. Railway cars and locomotives.....	---	4	2	6
22. Other causes.....	---	42	48	90
Total number injured on the surface..	1	76	72	149
Grand total.....	34	1,027	749	1,810

TABLE NO. 8

COAL MINE FATALITIES IN THE STATE OF COLORADO, CLASSIFIED BY CAUSE AND OCCUPATION, FOR YEAR ENDED
DECEMBER 31, 1928

CAUSES	Occupations															Total Fatalities			
	Foreman	Assistant Foreman	Fire Bosses	Pick Miners	Machine Miners	Machine Run-ners and Scrapers	Shot Friers	Drivers & Runners	Motormen and Assistants	Doorboys and Helpers	Trackmen and Brakemen	Timbermen and Roekmen	Pump & Pipeman	Electricians and Helpers	All Others	Total Underground	Surface Fatalities	Total Fatalities	
Underground—																			
1. Falls of roof (coal, rock, etc.)				7	6			1	1		1						16		16
2. Falls of face or pillar coal				6	3												9		9
3. Mine cars and locomotives	1			1	1			4									7		7
4. Gas explosions and burning gas																			
5. Coal-dust explosions (including gas and dust combined)							1										1		1
6. Explosives																			
7. Suffocation from mine gases																			
8. Electricity (shock or burns)											1						1		1
9. Animals																			
10. Mining machines																			
11. Mine fires (burned, suffocated, etc.)																			
12. Other causes																			
Shaft—																			
13. Falling down shafts or slopes																			
14. Objects falling down shafts or slopes																			
15. Cages or skips																			
16. Other causes																			
Total underground	1			14	10		1	5	1		2					34		34	

MINE EXPLOSIONS, THEIR CAUSES AND NUMBER OF
MEN KILLED, FROM 1884 TO 1928, IN THE
STATE OF COLORADO

- January 24, 1884—Crested Butte Mine—Gas and dust explosion, ignited by a lamp: 59 killed.
- January 10, 1893—Como Mine—Gas and dust explosion, blown out shot: 24 killed.
- February 18, 1896—Vulcan Mine (Garfield County)—Gas and dust explosion, ignited by a shot in the chute: 49 killed.
- September 3, 1897—Sunshine Mine—Dust explosion, ignited from shots: 12 killed.
- September 16, 1901—Spring Gulch Mine—Dust explosion, blown out shot: 6 killed.
- August 7, 1902—Bowen Mine—Dust explosion, ignited by giant powder: 13 killed.
- October 28, 1904—Tercio Mine—Dust explosion, ignited by blown out shots: 19 killed.
- February 19, 1906—Maitland Mine—Gas explosion, caused by open lights: 14 killed.
- April 27, 1906—Cuatro Mine—Gas and dust explosion, ignited by naked light: 19 killed.
- January 23, 1907—Primero Mine—Gas and dust explosion, ignited probably by a safety lamp: 24 killed.
- January 24, 1909—Toller Mine—Explosion of gas, caused by naked light: 9 killed.
- January 31, 1910—Primero Mine—Dust and gas explosion, cause of ignition not certain: 75 killed.
- October 8, 1910—Starkville Mine—Dust explosion, caused by a runaway trip: 56 killed.
- November 8, 1910—Delagua Mine—Gas and dust explosion, caused by a fire of unknown origin: 79 killed.
- December 14, 1910—Leyden Mine—Fire, cause unknown: 10 killed.
- February 9, 1911—Cokedale Mine—Dust explosion, caused by a blown-out shot: 17 killed.
- June 18, 1912—Hastings Mine—Gas explosion, caused by a defective lamp: 12 killed.
- August 12, 1912—Piedmont Mine—Gas explosion, caused by open light: 2 killed.
- October 1, 1912—South Canon Mine—Gas and dust explosion, caused either by fire damp or blown-out shots: 2 killed.
- December 31, 1913—Vulcan Mine (Garfield County)—Dust explosion, caused by an open light or from an explosion of powder: 37 killed.

May 2, 1915—Mutual Mine—Gas explosion, caused by gas being ignited by coal cutting machine: 2 killed.
 April 27, 1917—Hastings Mine—Gas and dust explosion, caused by an open safety lamp: 121 killed.
 November 4, 1918—Vulcan Mine (Garfield County)—Gas explosion, ignited by fire: 3 killed.
 March 31, 1919—Empire Mine—Gas explosion, caused by short circuiting of electric feed wires: 13 killed.
 August 18, 1919—Oakdale Mine—Gas explosion, caused by a defective safety lamp: 18 killed.
 February 12, 1921—Oak Hills Mine—Dust explosion, caused by blown-out shots: 5 killed.
 March 24, 1922—Sopris Mine—Gas and dust explosion, ignited by an electric arc: 17 killed.
 May 5, 1923—Southwestern Mine—Gas and dust explosion, caused by gas being ignited by an open light: 10 killed.
 August 5, 1924—Alamo Mine—Gas and dust explosion, caused by a flame used in lighting the fuses or spitting of a fuse: 1 killed.
 June 9, 1925—Gordon Mine—Fire damp explosion, ignited by a spark from a cutting machine: 3 killed.
 January 23, 1926—Harvey Gap Mine—Gas and dust explosion, caused by a naked light: 3 killed.
 January 29, 1926—Bear Canon No. 3 Mine—Gas explosion, caused by open lights: 4 killed.
 May 27, 1927—Delagua No. 3 Mine—Coal dust explosion, caused by an electric spark: 7 killed.
 No mine explosions in 1928.

EXPLOSIBILITY TESTS ON SAMPLES OF "DEBRIS"

Dear Sir:

The samples of "debris overlying a vein of coal" in Newcastle, Colorado, which you first submitted to the Department of the Interior has been tested for explosibility at the Pittsburgh Experiment Station, United States Bureau of Mines.

Following is a chemical analysis of this "debris":

Moisture	Volatile Matter	Fixed Carbon	Ash	Sulphur
1.8	18.1	16.5	63.2	0.4

Although this dust contains considerable volatile matter and fixed carbon, the high percentage of ash might seem to indicate little explosive hazard.

However, explosibility tests of a suspension of this dust in air in laboratory apparatus in which similar suspensions of bituminous coal and semi-coke dust produced explosions, gave in most cases slight ignitions and in some cases quite violent explosions.

Yours truly,

SCOTT TURNER,
 Director.

TABLE NO. 10

COAL MINE EMPLOYEES CLASSIFIED BY OCCUPATION IN THE STATE
OF COLORADO DURING YEAR ENDED DECEMBER 31, 1928

*UNDERGROUND		Employed in and Around the Mines of Colorado
1. Foremen		179
2. Assistant foremen.....		73
3. Fire bosses.....		179
4. Pick miners.....		3,918
5. Machine miners.....		3,605
6. Machine runners and scrapers.....		492
7. Shot firers.....		132
8. Drivers and runners.....		769
9. Motormen and assistants.....		228
10. Doorboys and helpers.....		32
11. Trackmen and batticemen.....		273
12. Timbermen and rockmen.....		292
13. Pumpmen and pipemen.....		105
14. Electricians and helpers.....		76
15. All others.....		391
Total underground.....		10,744
SURFACE		
1. Superintendents		114
2. Foremen		55
3. Blacksmiths and carpenters.....		200
4. Engineers and firemen.....		217
5. Machinists and helpers.....		101
6. Trackmen and helpers.....		25
7. All others at mine.....		1,125
8. Coke-oven employes.....		208
9. Office employes.....		129
Total surface.....		2,174
Total employes.....		12,918
Number of days men worked during year.....		187.7

* Table No. 9, omitted is covered by Table No. 8. Applies to Metal Mining.
Above poll taken in December, 1928.

TABLE A—1928

SHOWING BY COMPANIES: TOTAL NUMBER OF TONS PRODUCED AND NUMBER OF MEN EMPLOYED; NUMBER OF FATAL ACCIDENTS; NUMBER OF MEN EMPLOYED PER FATAL ACCIDENT AND NUMBER OF TONS PRODUCED PER FATAL ACCIDENT; NUMBER OF NON-FATAL ACCIDENTS; NUMBER MEN EMPLOYED PER NON-FATAL ACCIDENT AND NUMBER OF TONS PRODUCED PER NON-FATAL ACCIDENT; NUMBER KILLED PER 1,000 EMPLOYED AND NUMBER OF MEN INJURED PER 1,000 EMPLOYED.

COMPANIES	Total Production	Number of Men Employed	Number of Fatal Accidents	Number of Men Employed per Fatal Accident	No. of Tons Produced per Fatal Accident	No. of Non- Fatal Accidents	No. of Men Em- ployed per Non- Fatal Accident	No. of Tons Produced per Non-Fatal Accident	Killed per 1,000 Employed	Injured per 1,000 Employed
Aguilar Coal Co.	817	2								
Alamo Coal Co.	89,307	166				27	6.1	3,308		162.7
American Smelting & Refining Co.	226,490	245				52	4.7	4,356		212.2
Amos Coal Co.	479	1								
Anchor Coal Co.	369	6								
Anchor Fuel Co.	22,473	43				8	5.4	2,809		186.0
Associated Fuel Co.	4,129	15				4	3.8	1,032		266.7
Aztec Coal Mining Co.	52,928	81				4	20.3	13,232		49.4
Babson Coal Co.	2,264	2								
Bauntou, John	95	1								
Baldwin Fuel Co.	1,730	8								
Barbour Coal Co.	76,955	113				12	9.4	6,413		106.2
Barker, Wright	1,177	2								
Barnell, Geo. M.	2,040	4								
Baudino & Co.	3,900	5				1	5.0	3,900		200.0
Bear Canon Coal Co.	65,136	97				7	13.9	9,305		72.2
Bellodi, Angelo	231	1								
Black Canon Coal & Fuel Co.	2,227	15				2	7.5	1,114		133.3
Black Diamond Coal Co.	8,738	8				4	2.0	2,185		500.0
Black Diamond Fuel Co.	26,533	27				7	3.9	3,790		259.3
Bluff Springs Coal Co.	18,303	38				10	3.8	1,830		263.2
Boaglio Coal Co.	1,133	1								

Boulder Valley Coal Co.....	303,500	145	2	72.5	151,750	31	4.7	9,790	13.8	213.8
Braden, O.....	300	1	.....	.....	.....	.....	.....	.....	.....	.....
Brown, Mark.....	118	2	.....	.....	.....	.....	.....	.....	.....	.....
Burntall Fuel Co.....	1,597	156	.....	.....	.....	1	2.0	1,597	.....	500.0
Calliente Coal Co.....	87,217	102	.....	.....	.....	14	11.1	6,230	.....	89.7
Calumet Fuel Co.....	462,216	102	.....	.....	.....	42	9.6	11,005	.....	104.5
Cambro Coal Co.....	182	3	.....	.....	.....	.....	.....	.....	.....	.....
Canon Coal Mining Co.....	3,769	10	.....	.....	.....	4	2.5	942	.....	400.0
Canon District Coal Co.....	2,857	7	.....	.....	.....	1	7.0	2,857	.....	142.9
Canon Imperial Coal Co.....	12,501	23	1	23.0	12,501	6	3.8	2,084	43.5	260.9
Canon Quality Coal Co.....	2,428	11	.....	.....	.....	2	5.5	1,214	.....	181.8
Canon Reliance Coal Co.....	70,359	80	.....	.....	.....	13	6.1	5,412	.....	162.5
Carresta, Paul.....	705	2	.....	.....	.....	.....	.....	.....	.....	.....
Centennial Coal Co.....	70,662	66	.....	.....	.....	1	14.0	7,991	.....	71.4
Champion Coal Mining Co.....	7,991	14	.....	.....	.....	.....	.....	.....	.....	.....
Chergo, Tom.....	92	1	.....	.....	.....	17	11.9	13,558	4.9	83.7
Clayton Coal Co.....	230,481	203	1	203.0	230,481	505	6.4	5,329	2.8	157.5
Colorado Fuel & Iron Co.....	2,690,997	3,297	9	356.3	299,000	.....	.....	.....	.....	.....
Colorado Springs Co.....	48,519	64	1	64.0	48,519	8	8.0	6,065	15.6	125.0
Colorado & Utah Coal Co.....	200,175	196	.....	.....	.....	42	4.7	4,766	.....	214.3
Consolidated Coal & Coke Co.....	112,109	78	.....	.....	.....	10	7.8	11,211	.....	128.2
Converse, Frank.....	31	1	.....	.....	.....	.....	.....	.....	.....	.....
Corley, W. D.....	40,003	34	.....	.....	.....	27	1.3	1,482	.....	794.1
Cottonwood Coal Co.....	907	1	.....	.....	.....	.....	.....	.....	.....	.....
Cox Coal Company.....	407	2	.....	.....	.....	.....	.....	.....	.....	.....
Crested Butte Anthracite Mining Co.....	24,324	36	1	36.0	24,324	5	7.2	4,865	27.8	138.9
Crested Butte Coal Co.....	51,612	47	.....	.....	.....	2	2.5	25,806	.....	42.6
Crown Mining Co.....	5,214	15	.....	.....	.....	1	15.0	5,214	.....	66.7
Crumpley Coal Co.....	125	2	.....	.....	.....	.....	.....	.....	.....	.....
Cushman, G. B.....	1,086	6	.....	.....	.....	.....	.....	.....	.....	.....
Danville Coal Co.....	1,140	5	.....	.....	.....	.....	.....	.....	.....	.....
Davich Coal Co.....	456	2	.....	.....	.....	.....	.....	.....	.....	.....
Davidson, W. C.....	320	1	.....	.....	.....	.....	.....	.....	.....	.....
Deboy, Frank.....	563	1	.....	.....	.....	.....	.....	.....	.....	.....
DeGraffenried, J. R.....	200	1	.....	.....	.....	.....	.....	.....	.....	.....
Dick Coal Co.....	66,579	103	.....	.....	.....	12	8.6	5,548	.....	116.5
Domenico, S., & Sons, Inc.....	21,473	28	.....	.....	.....	5	5.6	4,295	.....	178.6
Domestic Coal Co.....	5,388	6	.....	.....	.....	2	3.0	2,694	.....	333.3

Ohio Creek Coal Co.	11,132	15	1	15.0	11,132	1	15.0	11,132	66.7	66.7
O. K. Coal Co.	7,654	10				2	5.0	3,827	200.0	
Oliver Coal Co.	29,756	50				5	10.0	5,951	100.0	
Oreochio Coal Co.	6,929	11				6	1.8	1,155	545.5	
Owens, R., & Sons	376	2								
Pacific Coal Mining Co.	16,565	34				3	11.3	5,522	88.2	
Palisade Coal & Supply Co.	19,188	28				1	23.0	19,188	35.7	
Paonia Farmers Coal Co.	3,955	3								
Patton, Lloyd	3,244	4								
Peacock Coal Co.	396	3								
Peavey, S. L.	500	3								
Peerless Coal Co.	346	3								
Perino Coal Co.	1,865	6				5	1.2	373	833.3	
Petry, Sam	931	2								
Pikes Peak Fuel Co.	257,986	207	1	207.0	257,986	24	8.6	10,749	4.8	115.9
Pine River Coal Co.	974	2								
Pinnacle-Kemmerer Fuel Co.	47,844	75				20	3.8	2,392	266.7	
Pittsburgh Coal Co.	1,664	2								
Placita Coal Mining Co.	16,198	17				2	8.5	8,099	117.6	
Prairie Canon Coal Co.	23,048	29	1	29.0	23,048	1	29.0	23,048	34.5	34.5
Prewitt & Skinner	166	2								
Pryor Coal Mining Co.	39,910	74				2	37.0	19,955	27.0	
Rapid Creek M., T. & P. Co.	5,057	14				2	7.0	2,529	142.9	
Rauman Coal Co.	2,337	5								
Rehnau, R. C.	136	1								
Rice, Chas., & Sons	243	1								
Richards, C. H.	429	2								
Richardson, Dan	641	1								
Rifle Coal Co.	3,459	4								
Rifle Coal Mines, Inc.	5,719	4								
Ritchneg, John	630	1								
Riverside Coal Co.	2,892	6								
Rochio Coal Co.	2,800	7								
Rocky Mountain Fuel Co.	622,257	713	3	237.7	207,419	1	7.0	2,800	142.9	
Ross Coal Co.	41,232	91				139	5.1	4,477	194.9	
						3	30.3	13,744	33.0	
Royal Fuel Co.	108,041	131				3	43.7	36,014	22.9	
Royers, J. S.	335	1								
Russell, W. E., Coal Co.	82,857	60				9	6.7	9,206	150.0	

TABLE A—Continued

COMPANIES	Total Production	Number of Men Employed	Number of Fatal Accidents	Number of Men Employed per Fatal Accident	No. of Tons Produced per Fatal Accident	No. of Non- Fatal Accidents	No. of Men Em- ployed per Non- Fatal Accident	No. of Tons Produced per Non-Fatal Accident	Killed per 1,000 Employed	Injured per 1,000 Employed
Santa Fe Coal Co.	3,175	8	.....	.....	.....	.....	.....	.....	.....	.....
Seven Points Pinnacle Coal Co.	568	3	.....	.....	.....	.....	.....	.....	.....	.....
Shamrock Coal Co.	104,588	73	.....	.....	.....	.....	36.5	52,294	.....	24.4
South Canon M. L. Co.	6,897	9	.....	.....	.....	.....	9.0	6,897	.....	111.1
Sphinx Coal Co.	4,072	8	.....	.....	.....	.....	.....	.....	.....	.....
S. & S. Coal Co.	276	4	.....	.....	.....	.....	.....	.....	.....	.....
Star Coal Co.	3,000	8	.....	.....	.....	.....	8.0	3,000	.....	125.0
States Hall Coal Co.	4,409	7	.....	.....	.....	.....	.....	.....	.....	.....
Stokes, W. D.	3,868	6	.....	.....	.....	.....	6.0	3,868	.....	166.7
Stove Canyon Mine Co.	2,762	4	.....	.....	.....	.....	.....	.....	.....	.....
Strong Coal Mining Co.	14,896	45	.....	.....	.....	.....	4.1	1,354	.....	244.4
Sunrise Coal Co.	745	2	.....	.....	.....	.....	.....	.....	.....	.....
Sunshine Coal Co.	5,117	7	.....	.....	.....	.....	.....	.....	.....	.....
Taylor, Chas. H.	350	1	.....	.....	.....	.....	.....	.....	.....	.....
Temple Fuel Co.	128,883	184	3	61.3	42,894	23	8.0	5,595	16.3	125.0
Thomas Coal Co.	380	2	.....	.....	.....	.....	.....	.....	.....	.....
Three Pines Coal Co.	8,558	26	.....	.....	.....	.....	.....	.....	.....	.....
Tipotsch, Frank	1,579	1	.....	.....	.....	.....	.....	.....	.....	.....
Torrid Coal Co.	16,789	26	.....	.....	.....	.....	5.2	3,358	.....	192.3
Traynor, W. S.	248	2	.....	.....	.....	.....	.....	.....	.....	.....
Triangle Coal Co.	5,302	4	.....	.....	.....	.....	.....	.....	.....	.....
Trout Creek Coal Co.	324	2	.....	.....	.....	.....	.....	.....	.....	.....
Ute Coal Co.	769	1	.....	.....	.....	.....	.....	.....	.....	.....
Valdez-Abeyta Coal Co.	209	4	.....	.....	.....	.....	.....	.....	.....	.....
Vesta Mines, Inc.	6,344	14	.....	.....	.....	.....	.....	.....	.....	.....
Vickers Coal Co.	64,961	69	.....	.....	.....	4	17.3	16,240	.....	58.0

Vigil, Jose S.	236	1	4	235.3	195.513	308	3.1	2,539	4.3	327.3
Victor-American Fuel Co.	782,052	941								333.3
Wallihan, A. C.	236	1								
Wellington Mining Co.	8,941	21	1	21.9	8,941	7	3.0	2,980	47.6	
Whitlock, E. E.	189	2								
White Ash Coal Co.	1,282	3				2	1.5	641		666.7
Willden, Elliott	575	3								
Williams Coal Co.	2,224	4								
Wilson, James	4,362	6								
Wilton Coal Co.	637	1								
Winton Coal Co.	477	1								
Wisconsin Coal Co.	260	1								
Total State of Colorado.	9,921,585	11,474	35	327.8	283,474	1,810	6.34	5,482	3.05	157.75

TABLE B

SHOWING BY COUNTIES, MINES OPERATED, NAME OF OPERATOR AND ADDRESS OF MINE, CHARACTER OF COAL, NUMBER OF DAYS WORKED, AVERAGE NUMBER OF MEN EMPLOYED, TOTAL NUMBER OF TONS OF COAL PRODUCED IN 1928 AND CAPACITY OF MINE PER DAY IN TONS.

ARCHULETA COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number Worked Days	Average No. of Men Employed	Total Number of Tons Produced	Capacity of Mine Per Day, Tons
Cox	Cox Coal Co.	Pagosa Springs	Sub-bituminous	153	2	407	3
Nossaman	W. J. Nossaman	Pagosa Springs	Sub-bituminous	72	2	108	.....
Total Number	of Mines operated: 2			112.5	4	515	.....

BOULDER COUNTY

Industrial	Rocky Mountain Fuel Co.	Superior	Sub-bituminous	176.7	100	80,492	1,000
Vulcan	Rocky Mountain Fuel Co.	Lafayette	Sub-bituminous	203.5	71	61,422	350
Standard	Rocky Mountain Fuel Co.	Lafayette	Sub-bituminous	144.5	25	28,063	200
Acme	Rocky Mountain Fuel Co.	Louisville	Sub-bituminous	40.6	55	13,772	Closed
Monarch No. 2	National Fuel Co.	Broomfield	Sub-bituminous	215.7	155	111,588	650
Centennial	Centennial Coal Co.	Louisville	Sub-bituminous	170.5	66	70,562	500
Black Diamond	Black Diamond Fuel Co.	Boulder	Sub-bituminous	320	27	26,533	150
Paramount	S. Domenico & Sons, Inc.	Louisville	Sub-bituminous	166	28	21,473	200
Eversman	Eversman Coal Co.	Broomfield	Sub-bituminous	137	15	5,615	30
Gorham	Domestic Coal Co.	Gorham	Sub-bituminous	187	6	5,388	50
Crown	Crown Mining Co.	Gorham	Sub-bituminous	97	15	5,214	500
Pittsburgh	Pittsburgh Coal Co.	Gorham	Sub-bituminous	224	2	1,664	8
Rosser (High-View)	Hale & Conda	Gorham	Sub-bituminous	161	2	1,370	18
Sunrise	Sunrise Coal Co.	Boulder	Sub-bituminous	209	2	745	.....
Cambro	Cambro Mining Co.	Louisville	Sub-bituminous	107	3	482	.....
Peerless	Peerless Coal Co.	Gorham	Sub-bituminous	42	3	346	.....
Cook	Prewitt & Skinner	Gorham	Sub-bituminous	56	2	166	.....
Total Number	of Mines operated: 17			177.3	577	434,995	.....

DELTA COUNTY

Kling	Juanita Coal & Coke Co.	Bowle	Bituminous	77	63	45,306	1,000
Green Valley	Green Valley Coal Co.	Cedaredge	Semi-bituminous	300	5	7,188	60
Paonia	Paonia Farmers' Coal Co.	Cedaredge	Semi-bituminous	218	3	3,955	—
Red Canon	Lloyd L. Patten	Cedaredge	Semi-bituminous	261.3	4	3,244	—
Red Mountain	States Hall Coal Co.	Cedaredge	Semi-bituminous	208	4	2,553	40
States	States Hall Coal Co.	Cedaredge	Semi-bituminous	205	3	1,856	40
Independent	Independent Coal Co.	Cedaredge	Semi-bituminous	230	3	2,214	35
Berry	E. A. Fitzsimmons	Paonia	Semi-bituminous	200	1	885	—
Winton	Winton Coal Co.	Austin	Semi-bituminous	135	1	477	—
Owens	Owens & Sons	Hotchkiss	Semi-bituminous	130	2	376	—
Converse	Frank Converse	Paonia	Semi-bituminous	231	1	341	30
De Graffenried	J. R. De Graffenried	Hotchkiss	Semi-bituminous	120	1	200	—
Rollins	McMillin Bros.	Delta	Semi-bituminous	36	2	150	—
Total Number	of Mines operated: 13			120.4	93	68,745	—

DOLORES COUNTY

North Star	New Mexico Lumber Co.	McPhee	Sub-bituminous	324	9	8,354	50
Total Number	of Mines operated: 1			324	9	8,354	—

ELBERT COUNTY

Burntall	Burntall Fuel Co.	Matheson	Sub-bituminous	286	2	1,597	100
Mascoat	Mascoat Coal, Oil & Clay Co.	Matheson	Sub-bituminous	130	11	1,475	100
Wright	Wright Barker	Matheson	Sub-bituminous	155	2	1,177	20
Total Number	of Mines operated: 3			154	15	4,249	—

TABLE B—Continued
EL PASO COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total Num- ber of Tons Produced	Capacity of Mine Per Day, Tons
Pikes Peak	Pikes Peak Fuel Co.	Pikeview	Sub-bituminous	239	185	245,871	1,500
Altitude	Pikes Peak Fuel Co.	Colorado Springs	Sub-bituminous	231	22	12,115	500
City Coal Mines	Colorado Springs Co.	Colorado Springs	Sub-bituminous	242	64	48,519	500
Corley	W. D. Corley	Colorado Springs	Sub-bituminous	257	34	40,003	500
Drennan	Drennan Coal Co.	Colorado Springs	Sub-bituminous	257	3	2,500	100
Golden Dawn	Golden Dawn Coal Co.	Yoder	Sub-bituminous	207.5	3	1,534	
Chimax	Danville Coal Co.	Colorado Springs	Sub-bituminous	75	5	1,140	5
Cottonwood	Cottonwood Coal Co.	Colorado Springs	Sub-bituminous	282	1	907	
*	C. W. Kurie	Colorado Springs	Sub-bituminous	.....	7	No ton- nage	
Total Number	of Mines operated: 8			233.3	324	352,589	

* C. W. Kurie opening mine employed 7 men, and shows one non-fatal accident.

FREMONT COUNTY

Rockvale No. 2	Colorado Fuel & Iron Co.	Rockvale	Bituminous	223.1	193	127,037	800
Nonac	Colorado Fuel & Iron Co.	Canon City	Semi-bituminous	260	35	32,374	250
Chandler	Victor-American Fuel Co.	Chandler	Bituminous	223.5	279	162,444	1,000
Canon	Canon Reliance Coal Co.	Canon City	Bituminous	223	80	70,359	500
Bluff Springs No. 1	Giuliano Coal Co.	Coal Creek	Bituminous	130.5	17	8,563	
Bluff Springs No. 2	Bluff Springs Coal Co.	Florence	Bituminous	206.5	38	18,303	100
Double Dick	Double Dick Coal Co.	Coal Creek	Bituminous	263	34	14,494	
Carbon (Canon Imperial)	Canon Imperial Coal Co.	Florence	Bituminous	189	23	12,501	
Griffiths	Griffiths Coal Co.	Canon City	Semi-bituminous	163	12	7,802	40
Brookside	Orechio Coal Co.	Florence	Semi-bituminous	283	11	6,929	30
Brewster	Canon Reliance Coal Co.	Florence	Semi-bituminous	273	10	3,769	

FREMONT COUNTY—Continued

Cuckoo.....	Star Coal Co.....	Canon City.....	Semi-bituminous.....	90.....	8.....	2,000.....	20.....
Canon District.....	Canon District Coal Co.....	Canon City.....	Bituminous.....	190.5.....	7.....	2,857.....	30.....
Rocchio.....	Rocchio Coal Co.....	Coal Creek.....	Semi-bituminous.....	134.....	7.....	2,800.....	25.....
South Magnet.....	Canon Quality Coal Co.....	Rockvale.....	Semi-bituminous.....	184.....	11.....	2,428.....	50.....
North Magnet.....	Perino Coal Co.....	Florence.....	Semi-bituminous.....	220.....	6.....	1,865.....	20.....
Willie No. 1.....	Paul Carestia.....	Florence.....	Semi-bituminous.....	136.....	2.....	705.....	5.....
Willie No. 2 (Petty).....	Sam Petty.....	Florence.....	Semi-bituminous.....	213.....	2.....	931.....	5.....
Newlan.....	Merlino & Moschetti.....	Florence.....	Bituminous.....	218.....	3.....	908.....	10.....
Total Number.....	of Mines operated: 19.....			217.3.....	778.....	480,069.....	

GARFIELD COUNTY

Carbonera.....	Gilson Asphaltum Co.....	Carbonera via Mack.....	Bituminous.....	233.5.....	9.....	10,015.....	60.....
South Canon.....	South Canon Mine Leasing Co.....	Glenwood Springs.....	Bituminous.....	212.....	9.....	6,897.....	100.....
North Canon.....	Rifle Coal Mines, Inc.....	Rifle.....	Bituminous.....	234.5.....	4.....	5,719.....	50.....
New Castle.....	New Castle Coal Company.....	Glenwood Springs.....	Bituminous.....	168.....	6.....	4,277.....	
McLearn (Spurling).....	Rifle Coal Co.....	Rifle.....	Bituminous.....	265.....	4.....	3,459.....	
Rauman.....	Rauman Coal Co.....	Rifle.....	Bituminous.....	273.....	5.....	2,337.....	20.....
Olkraud.....	Frank Deboy.....	Glenwood Springs.....	Bituminous.....	149.....	1.....	563.....	
Paradise.....	Angelo Bellodi.....	Glenwood Springs.....	Bituminous.....	73.....	1.....	231.....	
Total Number.....	of Mines operated: 8.....			220.5.....	39.....	33,498.....	

GUNNISON COUNTY

Somerset.....	Gabnet Fuel Co.....	Somerset.....	Bituminous.....	141.....	144.....	173,036.....	1,800.....
Crested Butte.....	Colorado Fuel & Iron Co.....	Crested Butte.....	Bituminous.....	136.9.....	132.....	83,998.....	670.....
Fullkey No. 2.....	Crested Butte Coal Co.....	Crested Butte.....	Bituminous.....	192.....	47.....	51,612.....	400.....
Smith-Anthracite.....	Crested Butte Anthracite Mining Co.....						
Horace.....	Ross Coal Co.....	Crested Butte.....	Anthracite.....	166.....	36.....	24,324.....	300.....
		Crested Butte.....		157.5.....	91.....	41,332.....	400.....
Alpine.....	Rocky Mountain Fuel Co.....	Baldwin.....	Semi-bituminous.....	138.....	52.....	34,580.....	350.....
Oliver.....	Oliver Coal Co.....	Somerset.....	Semi-bituminous.....	227.....	50.....	29,156.....	200.....
Ohio Creek.....	Ohio Creek Coal Co.....	Gunnison.....	Bituminous.....	172.....	15.....	11,132.....	100.....

TABLE B—Continued
GUNNISON COUNTY—Continued

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total Num- ber of Tons Produced	Capacity of Mine Per Day, Tons
Genter.....	Rapid Creek Mining T. & P. Co.....	Camp Center	Anthracite.....	213	14	5,057	25
La Plante.....	Sphinx Coal Co.....	Gunnison	Bituminous.....	192	8	4,672	.....
Baldwin-Star.....	Baldwin Fuel Co.....	Baldwin	Bituminous.....	57	8	1,730	.....
S. and S.....	S. & S. Coal Co.....	Gunnison	Bituminous.....	32	4	276	.....
Total Number	of Mines operated: 12.....			155.7	611	460,805	
HUERFANO COUNTY							
Robinson, No. 1.....	Colorado Fuel & Iron Co.....	Walsenburg	Bituminous.....	168.7	188	165,494	1,000
Robinson No. 2.....	Colorado Fuel & Iron Co.....	Walsenburg	Bituminous.....	141.2	188	120,498	1,000
Lester.....	Colorado Fuel & Iron Co.....	Lester	Semi-bituminous.....	222	166	154,194	600
Pictou.....	Colorado Fuel & Iron Co.....	Pictou	Bituminous.....	162.5	222	139,483	900
Cameron.....	Colorado Fuel & Iron Co.....	Farr	Bituminous.....	189.1	150	129,131	1,100
Ideal.....	Colorado Fuel & Iron Co.....	Ideal	Bituminous.....	225.5	150	115,171	600
Kebler No. 2.....	Colorado Fuel & Iron Co.....	Tioga	Bituminous.....	170.5	104	89,094	.....
Calumet No. 1.....	Calumet Fuel Co.....	Delcarbon	Bituminous.....	218	184	208,056	1,000
Calumet No. 2.....	Calumet Fuel Co.....	Delcarbon	Bituminous.....	245.9	74	81,124	400
Alamo.....	Alamo Coal Co.....	Alamo	Bituminous.....	169	166	89,307	1,000
Alamo No. 2 (Barbour).....	Barbour Coal Co.....	Alamo	Bituminous.....	195	113	76,955	1,000
Oakdale.....	Oakdale Coal Co.....	Oakview	Bituminous.....	297	66	67,170	275
Ravenwood.....	Caliente Coal Co.....	Ravenwood	Bituminous.....	245	89	58,723	300
Maitland.....	Caliente Coal Co.....	Maitland	Bituminous.....	137.2	67	28,494	350
Gordon.....	Gordon Coal Co.....	Gordon	Bituminous.....	200	85	54,301	450
Toltec.....	Aztec Coal Mining Co.....	Toltec	Bituminous.....	175.3	81	52,928	500
Mutual.....	Mutual Coal Co.....	Walsenburg	Bituminous.....	168.5	59	47,955	250
Pryor.....	Pryor Coal Mining Co.....	Pryor	Bituminous.....	123	74	39,910	400

HUERFANO COUNTY—Continued

Torrill	Torrill Coal Co.	Rugby	Bituminous	240	26	16,789	150
Pacific	Pacific Coal Mining Co.	Walsenburg	Bituminous	242	34	16,565	1,000
Ojo Canon	Dick Coal Co.	La Veta	Bituminous	205	35	16,091	150
Sunnyside	Strong Coal Mining Co.	Strong	Bituminous	141	48	14,896	300
Vesta	Vesta Mines, Inc.	Gordon	Bituminous	179	14	6,344	125
Leader No. 4	Fruth & Stone	Rouse	Bituminous	130	16	3,942	75
Leader No. 5	Fruth & Stone	Rouse	Bituminous	110.5	8	4,033	75
Caddell	Black Canon Coal & Fuel Co.	Walsenburg	Bituminous	87	15	2,227	30
Bunker Hill	Steve Mattivi & Sons	Rapson	Bituminous	160	7	800	20
Total Number	of Mines Operated: 27			188.3	242.9	1,800,105	

JACKSON COUNTY

Moore No. 1	North Park Coal Co.	Coalmont	Sub-bituminous	208	69	64,472	700
Mart	Geo. M. Barnell	Walden	Sub-bituminous	166	4	2,040	30
Mitchell	Geo. W. Davidson	Walden	Sub-bituminous	64	1	320	
Total Number	of Mines Operated: 3			203.7	74	66,832	

JEFFERSON COUNTY

Leyden No. 3	Leyden Lignite Co.	Golden	Sub-bituminous	196.7	91	92,673	600
Christensen	Good Fuel Co.	Littleton	Sub-bituminous	241	6	4,367	35
Sharon	Associated Fuel Co.	Morrison	Sub-bituminous	263	15	4,129	
Total Number	of Mines Operated: 3			207.4	112	101,169	

LA PLATA COUNTY

San Juan	American Smelting & Refining Co.	Durango	Bituminous	279	46	33,772	150
Durango	Durango Coal Co.	Durango	Bituminous	251	20	10,947	50
Black Diamond	Black Diamond Coal Co.	Durango	Bituminous	233	8	8,738	50
Peerless	Champion Coal Mining Co.	Durango	Bituminous	166.5	14	7,991	100

TABLE B—Continued
LA PLATA COUNTY—Continued

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total Number of Tons Produced	Capacity of Mine Per Day, Tons
O. K.....	O. K. Coal Co.	Durango	Bituminous	267	10	7,654	50
Triangle.....	Triangle Coal Co.	Durango	Bituminous	254	4	5,302	100
Sunshine.....	Sunshine Coal Co.	Durango	Bituminous	107.5	7	5,117	21
Morning Star.....	Baudino & Co.	Durango	Bituminous	192	5	3,900	6
Tipotsch.....	Frank Tipotsch	Hesperus	Bituminous	304	1	1,579	.....
Pine River.....	Pine River Coal Co.	Bayfield	Bituminous	181	2	974	.....
Soda Springs.....	John H. Henderson	Aztec, N. M. (No Colorado address)	Bituminous	200	1	860	.....
Valley View.....	Karl Hauert	Mancos	Bituminous	172	1	654	10
Shamrock.....	Dan Richardson	Bayfield	Bituminous	200	1	641	4
Excelsior.....	Excelsior Coal Co.	Bayfield	Bituminous	122	1	581	.....
Jakino.....	Jakino Coal Co.	Durango	Bituminous	30	3	339	.....
Hunt.....	Wm. Hunt	Hesperus	Bituminous	120	1	200	3
G. and G.....	R. V. Gadberr	Hesperus	Bituminous	44	1	187	2
Gingrich.....	Albert Gingrich	Kline	Bituminous	120	1	150	.....
Manning.....	O. V. Manning Co.	Durango	Bituminous	90	1	115	.....
Total Number	of Mines Operated: 19			220.8	128	89,701	

LAS ANIMAS COUNTY							
Morley.....	Colorado Fuel & Iron Co.	Morley	Bituminous	274.2	452	491,111	1,700
Frederick.....	Colorado Fuel & Iron Co.	Valdez	Bituminous	224.5	385	434,585	1,900
Toller.....	Colorado Fuel & Iron Co.	Tollerburg	Bituminous	258.8	288	295,445	1,200
Tabasco.....	Colorado Fuel & Iron Co.	Berwind	Bituminous	259.3	217	283,125	1,000
Berwind.....	Colorado Fuel & Iron Co.	Berwind	Bituminous	25.4	201	18,391	1,000
Sopris.....	Colorado Fuel & Iron Co.	Sopris	Bituminous	22	126	11,266	.....
Delagua.....	Victor-American Fuel Co.	Delagua	Bituminous	259.5	381	434,246	2,500
Boncarbo.....	American Smelting & Refining Co.	Cokedale	Bituminous	252	199	192,718	1,500

LAS ANIMAS COUNTY—Continued

Brothead No. 9	Temple Fuel Co.	Brothead	Bituminous	228	184	128,683	700
Kenneth	Vickers Coal Co.	Rugby	Bituminous	273	69	63,361	400
Royal	Royal Fuel Co.	Agullar	Bituminous	196	131	108,041	1,100
Thor	National Fuel Co.	Trinidad	Bituminous	146.5	101	69,631	500
Ludlow	Interano Coal Co.	Ludlow	Bituminous	187.7	128	81,738	600
Bear Canon No. 6	Bear Canon Coal Co.	Valtorso	Bituminous	169	97	65,136	1,000
Empire	Empire Coal Mining Co.	Agullar	Bituminous	135	64	62,447	600
Creston	Jewell Collieries Corp.	Agullar	Bituminous	203	82	55,852	350
Pick	Pick Coal Co.	Dicks	Bituminous	171	65	50,558	450
Prairie Canon	Prairie Canon Coal Co.	Valtorso	Bituminous	232.5	29	23,048	200
Anchor	Anchor Fuel Co.	Trinidad	Bituminous	111	40	20,728	1,000
Baldy	Anchor Fuel Co.	Trinidad	Bituminous	166	3	1,745	25
Forbes No. 9	Rocky Mountain Fuel Co.	Forbes	Bituminous	89.1	46	13,902	350
Wellington	Wellington Mining Co.	Walsenburg	Bituminous	142	21	8,941	50
Three Pines	Three Pines Coal Co.	Valtorso	Bituminous	76.5	26	8,558	150
Bowen	Home Fuel & Supply Co.	Trinidad	Bituminous	225	5	6,886	30
Jeffeyes	Jeffeyes Fuel Co.	Trinidad	Bituminous	251	14	5,057	40
Engle	James Wilson	Trinidad	Bituminous	176	6	4,302	50
Santa Fe	Santa Fe Coal Co.	Trinidad	Bituminous	85	8	3,175	30
La Belle	Wm. Morgan	Sopris	Bituminous	71	6	1,784	30
Pickford	Ponglio Coal Co.	Trinidad	Bituminous	251	1	1,133	5
Sunlight	L. C. Graves	Trinidad	Bituminous	120	3	997	10
Pawcett	Agullar Coal Co.	Agullar	Bituminous	211	2	817	10
Pritchard	Wilcox Coal Co.	Trinidad	Bituminous	197	1	637	10
Reshear	Joergel Coal Co.	Trinidad	Bituminous	130	2	600	4
David L.	Paych Coal Co.	Rapson	Bituminous	200	2	456	6
Braden	O. Braden	Sopris	Bituminous	190	1	300	6
Martinez	Rafael Martinez	Cokedale	Bituminous	100	1	254	6
Vigil	Jose S. Vigil	Valdez	Bituminous	105	1	226	6
New Congo	Valdez-Abeyta Coal Co.	Agullar	Bituminous	75	4	209	6
Fisher's Peak	R. Marsh	Trinidad	Bituminous	42	1	161	2
Ferrell	John Hollingsworth	Trinidad	Bituminous	85	2	137	2
Flag	Mark Brown	Trinidad	Bituminous	78	2	118	2
Total Number	of Mines Operated: 41		208.9	3,397	2,914,211		

TABLE B—Continued
MESA COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total Number of Tons Produced	Capacity of Mine Per Day, Tons
Cameo.....	McNeill Coal Corp.	Cameo.....	Semi-bituminous.....	287.5	82	110,432	600
Palisade.....	Palisade Coal & Supply Co.	Palisade.....	Semi-bituminous.....	205.5	28	19,188	.....
Garfield.....	Gilmore & Phillips.....	Palisade.....	Semi-bituminous.....	203	5	5,947	100
Winger.....	New Grand Mesa Coal Co.	Palisade.....	Semi-bituminous.....	218	4	4,454	50
Stokes.....	W. D. Stokes.....	Palisade.....	Semi-bituminous.....	187	6	3,868	50
P. V.....	B. Gearhart.....	Palisade.....	Semi-bituminous.....	224	2	2,964	.....
Riverside.....	Riverside Coal Co.	Palisade.....	Semi-bituminous.....	168	6	2,892	.....
Stove Canyon.....	Stove Canyon Mine Co.	Fruita.....	Semi-bituminous.....	193.8	4	2,762	30
Farmer's Mutual.....	Farmer's Mutual Coal Co.	Grand Junction.....	Semi-bituminous.....	171	4	2,717	15
Williams.....	Williams Coal Co.	Grand Junction.....	Semi-bituminous.....	163	4	2,224	40
McGinley.....	McGinley Coal Co.	Grand Junction.....	Semi-bituminous.....	229	2	1,985	30
Midwest.....	Midwest Coal Co.	Palisade.....	Semi-bituminous.....	90	6	1,513	100
Hidden Treasure.....	Hidden Treasure Mining Co.	Grand Junction.....	Semi-bituminous.....	190	4	1,232	.....
Peacock.....	Peacock Coal Co.	Grand Junction.....	Semi-bituminous.....	112	3	396	4
Nearing.....	Liberty Coal Co.	Fruita.....	Semi-bituminous.....	75	2	380	.....
Thomas.....	Thomas Coal Co.	Grand Junction.....	Semi-bituminous.....	120	2	210	.....
Anchor No. 1.....	Anchor Coal Co.	Fruita.....	Semi-bituminous.....	40	4	159	15
Anchor No. 2.....	Anchor Coal Co.	Fruita.....	Semi-bituminous.....	42	2	210	.....
Grassi.....	Grassi & Grasso.....	Grand Junction.....	Semi-bituminous.....	74	1	156	.....
Total Number	of Mines Operated: 19			226.4	171	163,861	

MOFFAT COUNTY

Hart.....	Fields & Wertz.....	Craig.....	Bituminous.....	157	2	2,730	20
Evans (Eberle).....	Moffat Co. Pinnacle Coal Co.	Craig.....	Bituminous.....	124	3	1,347	50
Knez.....	Joe L. Knez.....	Craig.....	Bituminous.....	160	2	942	.....

MOFFAT COUNTY—Continued

Collom.....	Ute Coal Co.....	Craig.....	Bituminous.....	300	1	769
Little Bear.....	C. H. Richards.....	Craig.....	Bituminous.....	140	2	429
Square Deal.....	Chas. H. Taylor.....	Craig.....	Bituminous.....	200	1	350
Wisconsin.....	Wisconsin Coal Mining Co.....	Lay.....	Bituminous.....	120	1	260
Sweeney.....	A. C. Wallihan.....	Lay.....	Bituminous.....	80	1	230
Whitlock.....	E. E. Whitlock.....	Hamilton.....	Bituminous.....	90	2	185
Martin (Walker).....	Ed. Martin.....	Craig.....	Bituminous.....	100	1	150
Total Number	of Mines Operated: 10.....			141.6	16	7,396

MONTEZUMA COUNTY

School Section Lease.....	Mancos Coal & Fuel Co.....	Mancos.....	Sub-bituminous.....	224	6	2,824
Cortez.....	Highland Utilities Co.....	Cortez.....	Sub-bituminous.....	216	3	2,074
Mesa Verde.....	G. B. Cushman.....	Cortez.....	Sub-bituminous.....	164	6	1,086
Morris.....	Geo. W. Morris.....	Dolores.....	Sub-bituminous.....	250	1	600
Wilden.....	Elliot Wilden.....	Mancos.....	Sub-bituminous.....	155	3	515
Spencer.....	Frank Estep.....	Mancos.....	Sub-bituminous.....	120	2	240
Total Number	of Mines Operated: 6.....			187.1	21	7,399

MONTROSE COUNTY

Independence.....	Wm. I. Oberding.....	Nucla.....	Sub-bituminous.....	120	2	611
Happy Canon.....	Happy Canon Coal Co.....	Montrose.....	Sub-bituminous.....	180	1	500
Pleasant Valley.....	C. A. Rice & Sons.....	Nucla.....	Sub-bituminous.....	100	1	243
Total Number	of Mines Operated: 3.....			130	4	1,354

OURAY COUNTY

Arlen.....	W. S. Traynor.....	Ouray.....	Sub-bituminous.....	60	2	248
Crumpley.....	Crumpley.....	Colona.....	Sub-bituminous.....	28	2	125
Total Number	of Mines Operated: 2.....			44	4	373

TABLE B—Continued
PITKIN COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number Worked	Average No. of Men Employed	Total Num- ber of Tons Produced	Capacity of Mine Per Day, Tons
Placita.....	Placita Coal Mining Co.....	Placita.....	Bituminous.....	300	17	16,198	200
Total Number	of Mines Operated: 1.....			300	17	16,198	
RIO BLANCO COUNTY							
Black Diamond.....	Electric Coal Co.....	Meeker.....	Bituminous.....	238.6	3	1,933	30
Oldland.....	Electric Coal Co.....	Meeker.....	Bituminous.....	193.5	3	1,532	30
Lion Canon.....	Lion Canon Coal Co.....	Meeker.....	Bituminous.....	182	1	1,150	10
Fairfield.....	S. L. Feavey.....	Meeker.....	Bituminous.....	120	3	500	6
Nine Mile Hill.....	T. D. Foreman.....	Meeker.....	Bituminous.....	182	1	417	
McKee.....	J. A. Morris.....	Meeker.....	Bituminous.....	60	1	150	
Reinaw.....	R. C. Reinaw.....	Meeker.....	Bituminous.....	90	1	136	
Douglass Creek.....	Jones & Trachta.....	Rangeley.....	Bituminous.....	80	2	124	10
Total Number	of Mines Operated: 8.....			156.5	15	5,942	
ROUTT COUNTY							
Oak Hills No. 1.....	Moffat Coal Co.....	Oak Creek.....	Bituminous.....	45.5	140	99,631	2,000
Oak Hills No. 2.....	Moffat Coal Co.....	Oak Creek.....	Bituminous.....	37.9	136	100,414	2,000
Arrowhead.....	Moffat Coal Co.....	Oak Creek.....	Bituminous.....	168.1	18	5,629	100
Harris.....	Colorado & Utah Coal Co.....	Mt. Harris.....	Bituminous.....	143	196	200,175	3,000
Hayden No. 3.....	Hayden Bros. Coal Corp.....	Haybro.....	Bituminous.....	114.9	155	158,890	1,200
Pinnacle.....	Victor-American Fuel Co.....	Oak Creek.....	Bituminous.....	79.2	172	126,193	1,750
Wadge.....	Victor-American Fuel Co.....	Mt. Harris.....	Bituminous.....	51.6	109	59,169	1,200

ROUTT COUNTY—Continued

Bear River.....	Fraker Coal Co.....	Bear River.....	Bituminous.....	97.1	73	58,030
P. K. No. 1.....	Pinnacle-Kenimerer Fuel Co.....	Mt. Harris.....	Bituminous.....	313	75	47,844
Keystone.....	Keystone Coal Co.....	Oak Creek.....	Bituminous.....	151	34	36,121
MacGregor.....	McNeil Coal Corp.....	MacGregor.....	Bituminous.....	97	43	26,763
Edison.....	Rabson Coal Co.....	Hayden.....	Bituminous.....	181	2	2,264
Premium.....	Fruth & Micheletti.....	Milner.....	Bituminous.....	118	3	1,413
Arthur.....	Edna Coal Co.....	Oak Creek.....	Bituminous.....	200	2	1,258
Mutual (Walker).....	Mutual Coal Co.....	Hayden.....	Bituminous.....	130	6	1,000
Trout Creek.....	Trout Creek Coal Co.....	Oak Creek.....	Bituminous.....	120	2	824
Indian Creek (Calvlew).....	Indian Creek Coal Co.....	Bear River.....	Bituminous.....	50	14	800
Ritchneg.....	John Ritchneg.....	Bear River.....	Bituminous.....	260	1	630
Seven Points.....	Seven Points Pinnacle Coal Co.....	Steamboat Springs.....	Bituminous.....	100	3	568
Amos.....	Amos Coal Co.....	MacGregor.....	Bituminous.....	139	1	479
Peacock.....	G. H. Franz.....	Deep Creek.....	Bituminous.....	48	3	785
Blue Spruce.....	John Mathews, Jr.....	Oak Creek.....	Bituminous.....	84	1	188
Walter.....	John Balnton.....	Mt. Harris.....	Bituminous.....	60	1	95
Chergo.....	Tom Chergo.....	Oak Creek.....	Bituminous.....	30	1	92
Total Number.....	of Mines Operated: 24.....			101	1,191	928,855

SAN MIGUEL COUNTY

Keck.....	H. E. Hopper.....	Norwood.....	Sub-bituminous.....	143	3	532
Royers.....	J. S. Royers.....	Norwood.....	Sub-bituminous.....	120	1	335
Marriott.....	Wm. Marriott.....	Norwood.....	Sub-bituminous.....	50	1	190
Total Number.....	of Mines Operated: 3.....			114	5	1,057

TABLE B—Continued
WELD COUNTY

Name of Mine	Name of Company	Mine Post Office	Character of Coal	Number of Days Worked	Average No. of Men Employed	Total Num- ber of Tons Produced	Capacity of Mine Per Day, Tons
Puritan.....	National Fuel Co.....	Dacona.....	Sub-bituminous.....	285.5	243	356,578	2,500
Columbine.....	Rocky Mountain Fuel Co.....	Serene.....	Sub-bituminous.....	221.5	265	313,154	1,500
Grant.....	Rocky Mountain Fuel Co.....	Frederick.....	Sub-bituminous.....	103	99	76,872	1,000
Boulder Valley.....	Boulder Valley Coal Co.....	Erie.....	Sub-bituminous.....	218.5	145	303,500	2,000
Clayton.....	Clayton Coal Co.....	Erie.....	Sub-bituminous.....	184	203	230,481	2,000
Imperial.....	Imperial Coal Co.....	Erie.....	Sub-bituminous.....	304	120	210,432	1,200
Baum.....	Consolidated Coal & Coke Co.....	Dacona.....	Sub-bituminous.....	231.3	78	112,109	1,000
Shamrock.....	Shamrock Coal Co.....	Erie.....	Sub-bituminous.....	230.1	73	104,588	700
Sterling.....	McNeil Coal Corp.....	Dacona.....	Sub-bituminous.....	158	82	93,917	1,200
Russell.....	W. E. Russell Coal Co.....	Frederick.....	Sub-bituminous.....	252.3	60	82,857	600
Liley.....	Liley Coal & Land Co.....	Frederick.....	Sub-bituminous.....	157	41	38,359	500
Frederick.....	Liley Coal & Land Co.....	Frederick.....	Sub-bituminous.....	176	23	16,732	200
Witherbee.....	Franklin Coal Co.....	Frederick.....	Sub-bituminous.....	155	5	2,452	50
White Ash.....	White Ash Coal Co.....	La Salle.....	Sub-bituminous.....	218	3	1,282	.....
Total Number	of Mines Operated: 14			197.9	1,440	1,943,313	
Total Number	of Mines Operated: 266						
Total Number	of Man-days Worked: 187.7						
Total Number	of Men Employed: 11,474						
Total Number	of Tons of Coal produced, 9,921,585						

TABLE C
PRODUCTION OF COUNTIES BY MONTHS—1928

Month	Archuleta	Boulder	Delta	Dolores	Elbert	El Paso
January		33,461	11,398	783	772	45,440
February		47,712	6,474	746	308	38,747
March		41,363	6,748	691	205	35,954
April		22,325	3,803	447	82	27,043
May		14,530	2,788	480	66	20,422
June		13,082	1,528	391	50	14,625
July		16,035	2,358	568	22	13,467
August		42,157	4,440	621	57	16,640
September		60,429	5,357	838	50	23,402
October		48,635	7,170	955	146	29,964
November		42,042	7,208	797	218	38,194
December	515	53,224	9,475	1,037	2,273	48,691
Totals.....	515	434,995	68,745	8,354	4,249	352,589

Month	Fremont	Garfield	Gunnison	Huerfano	Jackson	Jefferson
January	18,143	3,294	36,771	206,910	12,199	11,118
February	29,536	2,854	27,829	168,181	7,198	8,969
March	31,311	2,182	24,787	102,639	6,072	9,013
April	40,616	2,146	34,157	121,732	3,585	7,092
May	48,288	1,853	30,866	113,380	2,506	6,451
June	31,412	1,211	30,348	94,542	2,393	5,709
July	37,095	4,758	38,046	124,118	1,783	6,034
August	35,141	1,709	39,730	133,938	3,569	7,508
September	44,215	2,666	46,703	148,957	6,487	9,135
October	52,615	3,138	54,315	184,506	6,255	9,168
November	55,281	3,508	50,564	202,439	7,580	9,457
December	56,416	4,174	46,689	198,753	7,205	11,515
Totals.....	480,069	33,498	460,805	1,800,105	66,832	101,169

Month	La Plata	Las Animas	Mesa	Moffat	Monte-zuma	Mont-rose	Ouray
January	12,619	277,867	14,025	689	1,011	.....	.....
February	7,126	232,222	10,170	223	542	.....	.....
March	6,254	251,949	9,888	174	155	.....	.....
April	6,383	239,056	8,482	262	380	.....	.....
May	6,192	212,259	8,612	104	216	.....	.....
June	5,299	205,460	8,271	106	111	.....	.....
July	5,578	232,847	9,293	40	162	.....	.....
August	5,433	277,832	19,076	223	467	.....	.....
September	7,423	247,111	20,991	185	706	.....	.....
October	8,671	254,739	20,777	509	881	.....	.....
November	7,655	242,447	15,630	789	721	.....	.....
December	11,068	270,422	18,646	4,092	2,047	1,354	373
Totals.....	89,701	2,944,211	163,861	7,396	7,399	1,354	373

Month	Pitkin	Rio Blanco	Routt	San Miguel	Weld	Grand Totals
January	675	662	142,329	.....	173,241	1,003,407
February	906	459	63,857	.....	194,907	848,966
March	1,662	353	38,383	.....	179,862	749,665
April	2,132	357	68,527	.....	120,176	708,773
May	1,233	194	59,448	.....	87,452	617,345
June	1,122	168	48,400	.....	95,294	559,522
July	1,183	111	60,464	.....	82,002	635,964
August	1,554	148	58,197	.....	115,630	764,070
September	1,908	534	84,260	.....	187,928	899,285
October	1,146	489	101,505	.....	197,530	983,114
November	1,363	610	100,928	.....	215,932	1,003,363
December	1,314	1,857	102,557	1,057	293,359	1,148,111
Totals.....	16,198	5,942	928,855	1,057	1,943,313	9,921,585

TABLE D

SHOWING INCREASE AND DECREASE BY COUNTIES, 1927-1928

Counties	1927	1928	Increase	Decrease
Archuleta	414	515	101	.....
Boulder	433,661	434,995	1,334	.....
Delta	87,883	68,745	.....	19,138
Dolores	9,200	8,354	.....	846
Elbert	3,615	4,249	634	.....
El Paso	349,386	352,589	3,203	.....
Fremont	449,769	480,069	30,300	.....
Garfield	30,654	33,498	2,844	.....
Gunnison	555,837	460,805	.....	95,032
Huerfano	1,814,629	1,800,105	.....	14,524
Jackson	69,799	66,832	.....	2,967
Jefferson	79,380	101,169	21,789	.....
La Plata	92,215	89,701	.....	2,514
Las Animas	3,231,872	2,944,211	.....	287,661
Mesa	118,495	163,861	45,366	.....
Moffat	5,357	7,396	2,039	.....
Montezuma	7,928	7,399	.....	529
Montrose	1,346	1,354	8	.....
Ouray	250	373	123	.....
Pitkin	2,224	16,198	13,974	.....
Rio Blanco	5,042	5,942	900	.....
Routt	921,614	928,855	7,241	.....
San Miguel	1,096	1,057	.....	39
Weld	1,509,914	1,943,313	433,399	.....
Totals	9,781,580	9,921,585	.....	.....
Increase .....	.....	.....	140,005	.....

TABLE E

COKE PRODUCED IN 1928 BY COMPANIES AND COUNTIES

Companies	Total No. of Ovens Used	Total Tonnage	Counties	Total No. of Ovens Used	Total Ton- nage
American Smelting and Refining Co.....	211	105,491	La Plata	25	12,256
Colorado Fuel and Iron Co.....	282	644,531	Las Animas.....	348	131,944
			Pueblo	120	605,822
Totals.....	493	759,022	Totals.....	493	750,022

REMARKS:

Average number of days worked at the coke oven..... 340.5
 Average number of men employed at the coke ovens..... 208
 Number of tons of coal made into coke..... 1,265,105

TABLE F
SHOWING BY COUNTIES PRODUCTION OF 1928 IN PREPARED SIZES

COUNTIES	Mine Run	Lump	Nut	Pea	Slack	Total Tons
Archuleta.....	515	164,970	40,816	13,627	179,878	515
Boulder.....	35,704	164,970	40,816	13,627	179,878	434,995
Delta.....	7,734	35,818	14,235	867	10,091	68,745
Dolores.....	8,354	.....	.....	.....	.....	8,354
Elbert.....	2,746	712	377	97	317	4,249
El Paso.....	90,788	91,771	52,017	350	117,663	352,569
Fremont.....	69,801	208,678	72,223	1,583	127,784	480,089
Garfield.....	17,091	4,728	5,844	1,252	4,583	33,498
Gunnison.....	308,788	88,105	31,167	.....	32,745	460,805
Huerfano.....	581,174	554,450	187,074	19,118	458,289	1,800,105
Jackson.....	9,408	19,024	16,862	.....	21,538	66,832
Jefferson.....	16,849	21,056	7,354	245	55,665	101,169
La Plata.....	68,198	9,209	3,112	1,123	8,059	89,701
Las Animas.....	1,361,193	192,626	126,342	57,074	1,206,976	2,944,211
Mesa.....	127,550	20,762	5,581	3,487	6,481	163,861
Moffat.....	6,425	743	146	82	.....	7,396
Montezuma.....	5,085	1,741	38	50	485	7,399
Montrose.....	1,354	.....	.....	.....	.....	1,354
Ouray.....	373	.....	.....	.....	.....	373
Pitkin.....	10,983	1,424	.....	63	3,728	16,198
Rio Blanco.....	2,288	2,587	593	46	228	5,942
Routt.....	86,736	442,585	154,824	4,924	239,786	928,855
San Miguel.....	535	471	.....	.....	.....	1,007
Weld.....	41,576	809,732	200,254	65,859	825,892	1,943,313
Totals.....	2,861,248	2,671,392	918,859	169,847	3,300,239	9,921,585

NOTE.—In the Slack, some mines include Pea and others Nut and Pea coal. The Egg and Grate coal is included in the Nut coal. (The Egg and Grate coal reported is from Boulder, Las Animas, Routt and Weld Counties.)

COAL PRODUCTION OF COLORADO FROM 1873 TO 1928, INCLUSIVE

Year	Tons	Year	Tons
1873.....	69,977	1901.....	6,021,405
1874.....	87,372	1902.....	7,522,923
1875.....	98,838	1903.....	7,775,302
1876.....	117,666	1904.....	6,776,551
1877.....	160,000	1905.....	8,989,631
1878.....	200,630	1906.....	10,308,421
1879.....	322,732	1907.....	10,965,640
1880.....	375,000	1908.....	9,773,007
1881.....	706,744	1909.....	10,722,490
1882.....	1,161,479	1910.....	12,104,887
1883.....	1,220,593	1911.....	10,197,595
1884.....	1,130,024	1912.....	11,016,948
1885.....	1,398,796	1913.....	9,268,939
1886.....	1,436,211	1914.....	8,201,423
1887.....	1,791,735	1915.....	8,715,397
1888.....	2,185,477	1916.....	10,522,185
1889.....	2,400,629	1917.....	12,515,305
1890.....	3,075,781	1918.....	12,658,055
1891.....	3,512,632	1919.....	10,406,543
1892.....	3,771,234	1920.....	12,514,693
1893.....	3,947,056	1921.....	9,141,947
1894.....	3,021,028	1922.....	10,003,610
1895.....	3,339,495	1923.....	10,336,735
1896.....	3,371,633	1924.....	10,501,088
1897.....	3,565,660	1925.....	10,440,387
1898.....	4,174,037	1926.....	10,616,760
1899.....	4,826,939	1927.....	9,781,580
1900.....	5,495,734	1928.....	9,921,585

TABULATION SHOWING THE NUMBER OF MEN OF DIFFERENT NATIONALITIES EMPLOYED IN AND ABOUT THE COAL MINES OF COLORADO. (POLL TAKEN JANUARY, 1929)

Americans	4,995	Mexicans	3,138
Austrians	578	Montenegrins	8
Belgians	11	Negroes	357
Bohemians	33	Norwegians	2
Bulgarians	176	Poles	119
Canadians	11	Portuguese	2
Croatians	36	Rumanians	17
Danes	4	Russians	49
English	185	Scotch	166
Finlanders	29	Servians	43
French	66	Slavonians	267
Germans	176	Spanish	37
Greeks	223	Swedes	55
Hollanders	3	Swiss	6
Hungarians	62	Syrians	1
Indian	3	Turks	3
Irish	68	Welsh	113
Italians	1,800		
Japanese	56	Total	12,918
Lithuanians	19		

Number of above who can speak English (including Americans and English).....12,538

LIST OF FATAL ACCIDENTS WHICH OCCURRED IN THE
COAL MINES OF COLORADO DURING THE YEAR 1928

January 9—GEORGE SANICH, Austrian, trackman, experience 20 years, age 44 years, married, four children, employed by The Colorado Fuel & Iron Co., at the Robinson No. 2 mine, Huerfano County, came to his death by electrocution. Deceased was replacing ties on a haulage road and in some manner came in contact with a trolley wire. The accident was a misadventure and is classed as unavoidable.

January 21—JOSE QUINTANA, Mexican, pick miner, experience 9 years, age 31 years, employed by the Prairie Canon Coal Co., at the Prairie Canon mine, Las Animas County, was killed by a fall of rock. Deceased was working alone and was in the act of setting a prop and cap under a rock when it gave way. It appeared that deceased had mined under the rock until he struck a slip. The accident was a mishap and is classed as unavoidable.

February 5—WILLIAM KIRK, American, machine miner, experience three days, age 42 years, married, three children, employed by The Rocky Mountain Fuel Co., at the Acme mine, Boulder County, was injured by a fall of rock on the 4th of February and died on the above date. Deceased, after testing the roof, started to dig out a hitch hole to put up a cross bar and then began to take down the coal. After striking a few licks, a rock gave way from an invisible slip, injuring deceased so severely that he died the following day. The accident was unforeseen, as all precaution had been taken, but it is possible had deceased or any of his partners had experience in coal mining, the accident might have been avoided.

February 6—THOMAS BEVERIDGE, American, machine miner, experience 32 years, age 49 years, single, employed by the Colorado Fuel & Iron Co. at the Pietou mine, Huerfano County, was killed by a fall of rock. Deceased and his partners were loading out coal from a machine cut, when a pot rock gave way from an invisible slip, falling on and killing deceased instantly. The accident was unforeseen and due to the hazard of the work.

February 6—GROVER C. MUIR, American, driver, experience 4 years, age 22 years, single, employed by the Colorado Fuel & Iron Co., at the Pietou mine, Huerfano County, was killed by falling off a trip. Deceased was driving a trip and when rounding a curve at the bottom of a grade about 200 feet in by the main parting, he was thrown from the front end of the trip to narrow side of track and caught between cars and rib and crushed so severely that he died a few hours after. The accident is classed as unavoidable and due to the hazard of the rock.

February 8—MARGARITO HERNANDEZ, Mexican, pick miner, experience 7 years, age 36 years, married, 6 children, em-

ployed by the Hayden Bros. Coal Corp., at the Hayden No. 3 mine, Routt County, was killed by a fall of rock from roof of face. Deceased was picking down some coal which was sticking to the roof. This liberated a piece of rock which fell on him causing injuries from which he died shortly after. The place was well timbered but an invisible slip released the rock when the coal adhering to it was removed. The accident was unavoidable.

February 8—CERILLOS TRUJILLO, Mexican, pick miner, experience 5 years, age 34 years, married, 3 children, employed by the Temple Fuel Co., at the Brodhead No. 9 mine, Las Animas County, was killed by a fall of rock. Deceased and his partner were extracting pillars. The place was well timbered, but in extracting the coal they exposed a slip which was invisible and which fell on deceased, killing him instantly. The accident was unforeseen and is classed as unavoidable.

February 10—JOHN HOLMQUIST, Swede, pick miner, experience 5 months, age 41 years, single, employed by the Colorado Fuel & Iron Co., at the Morley mine, Las Animas County, was killed by a fall of rock. Deceased and his partner were loading a car in a cut 6 feet wide which had been driven 10 feet in advance of the butts on the left side of the room. Draw slate gave way from a slip near the face and fell on deceased. The room was well timbered except in the cut, where an emergency prop should have been used and which might have held the rock in place.

February 18—BARNEY CARROLL, American, driver, experience 26 years, age 45 years, married, 2 children, employed by the Boulder Valley Coal Co., at the Boulder Valley mine, Weld County, was crushed to death under a loaded pit car. Deceased was driving a mule hitched to a loaded car and in some unaccountable manner was caught under it. There was no eye witness to the accident, and deceased was experienced in his line of work. Another driver heard someone call for help and looking back saw deceased being dragged under a car and before he could get to him, he was beyond help. The accident was due to a mischance for which no one could be held responsible.

February 25—HENRY O. KNAPP, American, mine foreman, experience 35 years, age 58 years, married, 6 children, employed by the Pikes Peak Fuel Co., at the Pikeview mine, El Paso County, had a finger injured December 23, 1927, and died from the effects of it on the above date. Deceased was coupling empty cars to make a motor trip and found the coupling pin hole in the bumper on the front end of the car to be coupled filled with fine coal. While leaning over to clean out the hole with one of his fingers, another car came down on the track and bumped into the rear end of the car, crushing his little finger between the bumpers. Deceased had his finger treated immediately and continued to work. About 13 days later, blood poison set in and the finger was amputated. He died from cerebral thrombosis, which was caused

by the blood poison. Deceased was a mine foreman and rendered assistance at the time of the accident which was not demanded of him. The accident was due to a mischance and for which no one can be held responsible.

March 17—GABRIEL G. HADDOW, Scotch, rope rider, experience 28 years, age 46 years, widower, 2 children, employed by the Colorado Fuel & Iron Co., at the Toller mine, Las Animas County, was instantly killed by being caught between a pit car and rib. The car had jumped the track and in putting it back two sprags were used, but when the car was set on top of sprags it swung towards the rib on left side of entry where deceased was standing. He attempted to signal the engineer and in so doing he was caught and dragged a distance of four feet. The width of the entry where the sprags were used has a clearance of four feet. Accident was a misadventure for which no one could be held responsible.

March 19—ESIGUO ABALOS, Mexican, timber and track man, experience 14 years, age 36 years, married, 4 children, employed by the Victor-American Fuel Co., at the Delagua mine, Las Animas County, was killed by a fall of rock. Deceased and his partner were working on an entry of main haulageway. A bad piece of top roof was found and the men were instructed by the assistant mine foreman to properly secure it before attempting to clean the road at that point. They evidently had set several props for their protection and started to work. However, the top gave way and fell on deceased with fatal results. The accident is classed as a misadventure.

April 6—W. J. BIDDLEMAN, American, machine miner, experience 25 years, age 53 years, married, 3 children, employed by the Grand Junction Mining & Fuel Co., at the Sterling mine, Weld County, was injured on the 5th of April, between a trip of loaded cars and rib, and died on the above date. There was no eye witness to the accident. Deceased was found severely injured by several co-workers lying by the side of a track about 25 minutes after he had left the working place with his trip. He was taking the trip down to the parting, the grade of the road being in favor of the load, the speed of the cars increasing and as he arrived at the switch, in some manner he got off on the wrong side and was crushed against the rib. It is customary to use one or two sprags on this run, but none were found in the trip. However, upon investigating, one sprag was found on the inby, evidently it had fallen out of the trip and thus accelerated the speed of the cars. There is sufficient clearance on the outside of the track to allow the driver to leave the trip at any point. Deceased was considered a practical and careful workman and the accident was a misadventure for which no one could be held responsible.

April 21—MIKE CHENICK, Austrian, pick miner, experience 15 years, age 40 years, employed by the Crested Butte An-

thracite Mining Co., at the Smith-Anthracite mine, Gunnison County, was killed by a fall of rock. The entry where the accident occurred was well timbered, props set about 4 feet apart. Deceased was digging coal when a pot rock released by a water slip, fell down between the props and caught him and killed him instantly. The accident was unforeseen and is classed as unavoidable.

May 4—SAMUEL VARANTIS, Greek, pick miner, experience 15 years, age 35 years, married, 2 children, employed by the Colorado Fuel & Iron Co., at the Kebler No. 2 mine, Huerfano County, was killed by a fall of pillar coal. Deceased was working in a room pillar pulling down a loose slip of coal, which, in falling, struck him across the hips causing injuries from which he died ten hours later. The accident was a misadventure and is classed as unavoidable.

May 26—LORENZO GRINALDO, Mexican, pick miner, experience 22 years, age 62 years, widower, 5 children (all married), employed by the Hayden Bros. Coal Corp., at the Hayden No. 3 mine, Routt County, was injured May 23rd by a fall of rib coal, and died on above date. Deceased was standing between rib and car, loading coal. A bump occurred, which threw him against the car causing injuries from which he died. The accident might have been avoided had deceased taken the precaution of removing the loose coal from the rib or had left a clear space between himself and the car.

May 29—LUKE BRENNAN, English, machine miner, experience 35 years, age 61 years, married, no children, employed by the Colorado Springs Company, at the City Coal mine, El Paso County, was killed by a fall of coal. Deceased with a pick was releasing some coal that had been undercut when it gave way suddenly and a large chunk rolled over towards the side where he was standing and before he could get out of the way struck his right leg, fracturing it. He died from the shock an hour after the bone had been set. Deceased was a careful workman and the place was well timbered. The accident was a mishap for which no one could be held responsible.

June 18—FRANK NEWMAN, American, pick miner, experience 20 years, age 40 years, single, employed by the Victor-American Fuel Co., at the Pinnacle mine, Routt County, was killed by a fall of rock. Deceased and his partner were working in a room loading coal. Before starting to work, they had sounded the roof and found it solid; however, there was an invisible slip over the roadway which ran between the props and was not supported. While deceased was loading a car the rock came down striking him and killed him instantly. The accident was unforeseen and is classed as unavoidable.

June 21—LOUIS PAPPOFF, Bulgarian, machine miner, experience 7 years, age 46 years, married, 3 children, employed by the Clayton Coal Co., Clayton mine, Weld County, was killed by a

fall of rock. Deceased and his partner had put up a temporary prop and were taking down loose coal preparatory to putting up a cross bar. While thus employed a large rock fell from the roof knocking out the prop and striking deceased, injured him so severely that he died a few hours later. He was a good, practical workman and was very careful. The accident is classed as unavoidable.

June 25—CHARLES EDWARD LEACH, English, machine miner, experience 14 years, age 38 years, married, no children, employed by the Wellington Mining Co., at the Wellington mine, Las Animas County, was killed by a fall of rock. The entry where accident occurred was timbered by cross bars to within three feet of the face. The place had just been cut and deceased was loading out the coal when he uncovered an invisible slip thereby releasing a pot rock which fell on him, killing him almost instantly. The accident was unforeseen and is classed as unavoidable.

June 27—PATRICIO DAIZ, Mexican, pick miner, experience not stated, age 41 years, married, no children, employed by the Colorado Fuel & Iron Co., at the Frederick mine, Las Animas County, was killed by being caught between two pit cars. Deceased was in the act of getting an empty car at the switch of a room when two cars came down the slant and pushed him against the car and crushed him to death. No one seemed to know how the cars came off the trip for no one cuts the cars from the trip but the nipper and he denies that he made the cut. However, he must have done so and he is held responsible for the accident.

No accidents in July.

August 3—AMADO GARCIA, Mexican, pick miner, experience 1 year, age 21 years, single, employed by the Victor-American Fuel Co. at the Delagua mine, Las Animas County, was injured on the 1st of August by a fall of draw slate. Deceased was working in a pillar when a piece of draw slate fell from the roof, striking him and breaking his leg. He died two days later from the effects of this injury. The accident was unforeseen and is classed as unavoidable.

August 20—C. D. COLLEY, American, machine miner, experience 28 years, age 43 years, married, three children, employed by the Temple Fuel Co., at the Brodhead No. 9 mine, Las Animas County, was killed by a fall of rock. Deceased and his partner were loading coal from a new cut when a draw rock gave way from an invisible slip at the face, striking him and killing him almost instantly. The partner escaped without injury. The place was well timbered and the accident was unforeseen and is classed as unavoidable.

September 26—JOHN H. YENICH, Austrian, pick miner, experience 13 years, age 27 years, married, 2 children, employed by the Colorado Fuel & Iron Co. at the Morley mine, Las Animas County, was killed by a fall of rock. Deceased was driving through

a chain pillar to reach an entry when a pot rock gave way from the roof. A prop had been set on the edge of the pot hole but as the coal was being taken away the rock was released, dislodging the prop near the face and fell on deceased killing him almost instantly. The place was well timbered and the accident was unforeseen and is classed as unavoidable.

September 29—ADOLPHE MOEHLE, American, motorman, experience 15 years, age 34 years, single, employed by the Temple Fuel Co., at the Brodhead No. 9 mine, Las Animas County, was killed by a fall of rock. Deceased was taking a trip of empty cars to the inside parting. He also had a loaded car of sand in front of the locomotive. This car jumped the track knocking out a cross bar which released a large slab of sand rock which fell on him, killing him instantly. The accident was a misadventure for which no one could be held responsible.

October 8—PABLO SHOBLO, Mexican, pick miner, experience 38 years, age 52 years, widower, 4 children, employed by the Colorado Fuel & Iron Co., at the Morley mine, Las Animas County, was killed by a fall of rock. Deceased had knocked out a prop to make room for a track into a room pillar and while testing the roof a piece of draw slate gave way striking him so severely that he died a few hours later. The place was well timbered and the accident was unforeseen and is classed as unavoidable.

October 9—ROCCO SCUTTE, Italian, machine miner, experience 5 years, age 21 years, single, employed by the Canon Imperial Coal Co., at the Carbon mine, Fremont County, was killed by a fall of draw slate. Deceased was working at the face when a piece of draw slate fell on him, killing him instantly. The place was well timbered and seemed to be in good working condition. The accident was unforeseen and is classed as unavoidable.

October 17—MELVIN M. GREGG, American, farmer, age 29 years, married, no children, residence, Agate, Elbert County. The accident occurred on land, the surface of which belonged to J. M. Derry and the coal underlying the land, to the Union Pacific Railroad. It seems that it has been customary for many years, for the farmers nearby to go to this place and to an adjoining section of land belonging to the United States government, to get coal free by digging it out. In the extraction of this coal no timbers or sprags were used, good luck being the only safety measures. The coal seam is about 3 feet in thickness and crops out in many places along the banks of the arroyos, the cover varying in thickness from 3 to 10 feet. At the point where the accident occurred the cover was about 10 feet and the bank very steep. Deceased and two other men were digging down some of the coal when the lip of the bank that extended over the workers gave way, striking him and one of the other men, and injuring deceased so severely that he died 6 hours later, but the other man escaped with slight injuries. In the extraction of the coal there was no system of any kind used.

When sufficient coal was removed from under the bank to allow it to cave, another place was started. It is apparent that all who came for the coal were farmers, who had no idea of the danger they were facing in taking out the coal. Steps should be taken by the owners of the land to prevent the mining of this coal unless proper supervision is provided.

October 26—CHARLIE MAGINIE, Italian, trapper, experience 1 year, age 19 years, single, employed by the Jewel Collieries Corp., at the Creston mine, Las Animas County. Deceased and three other men were riding on a loaded trip going out of the mine. When they approached a low place on the slope, deceased did not stoop low enough or perhaps did not see it in time, anyway, he was caught between the roof and the top of the loaded car and severely crushed. The accident was due to a violation of the law and both deceased and mine officials were negligent of their duty and they are responsible for it.

November 24—WILLIAM J. COX, American, driver, experience 19 years, age 36 years, married, 2 children, employed by the Rocky Mountain Fuel Co., at the Vulcan mine, Boulder County, was killed by a fall of coal and rock. At the time of the accident, deceased was waiting on the miners to finish loading a car of coal when a fall of top coal and rock fell from the roof near the face and struck him, killing him instantly. The accident occurred in a chain pillar between entries and was caused by a large pot rock breaking through top coal roof which covered the pot rock and made it invisible. The place had been visited by the foreman two hours prior to the accident and found safe, although he ordered an extra cross bar put up as he considered that the distance was too wide between the last cross bar and the face. The instructions were evidently being carried out when the accident occurred. There was no evidence of weight on any of the timbers. The accident was unforeseen and is classed as unavoidable.

November 27—CECIL FENQUAY, American, machine miner, experience, 2 years, age 30 years, single, employed by the Ohio Creek Coal Co., at the O. C. mine, Gunnison County, was killed by a fall of rock. Deceased had just started to work in an entry when a pot rock gave way from a slip in the roof and fell on him. The roof in this section of the mine is a sort of soapstone and appears to be good and solid. The place was well timbered according to timber agreement. The accident is classed as unforeseen and unavoidable.

November 29—CONCEPTION BARRON, Mexican, pick miner, experience 6 months, age 22 years, single, employed by the Victor-American Fuel Co., at the Delagua mine, Las Animas County, was injured on November 23rd by a fall of slate and died on the above date. Deceased and his partner were working in a room pillar. The place was well timbered. Deceased was in the act of pulling down loose coal from the end of the pillar, when he un-

covered a slip in the draw rock which gave way, falling on him with the above result. The accident is classed as unavoidable.

December 8—EMIL ECKERT, American, machine miner, experience 11 years, age 34 years, married, 1 child, employed by the Boulder Valley Coal Co., at the Boulder Valley mine, Weld County, was killed by a fall of coal and rock. Deceased and his partner had finished loading a car on one side of a pillar and went over to the other side to investigate conditions, intending to start work there. As he walked into the room a bump and cave occurred inby, releasing coal and rock from an invisible but well defined water slip and caught deceased. The place was well timbered, but the force of the bump dislodged the props. Deceased was a careful workman and the accident is charged to the hazard of the work.

December 12—AUGUST MARTIN, German, shot firer, experience 21 years, age 44 years, single, employed by the Moffat Coal Co., at the Oak Hills No. 2 mine, Routt County, came to his death not clearly defined, probably resulting from improperly placed or handled shots. He was firing shots and one went off without going through the coal but broke off a chunk weighing about 15 pounds. This apparently struck him as blood was found on it. He dragged himself about 30 feet from the face of the room where he was found dead. His right leg was almost amputated. As there was no eye witness to the accident, the cause of his death can not be definitely ascertained. It is possible that he was absent minded or careless, but death was due to some mishap.

December 13—BENJAMIN MARTINEZ, Mexican, pick miner, experience 15 years, age 34 years, married, 2 children, employed by the Rocky Mountain Fuel Co., at the Columbine mine, Weld County, was killed by a fall of rock. Deceased and his partner were driving a place through a pillar. They had been instructed by the mine foreman to set another cross bar as soon as there was room for it. Coal had been loaded away and deceased was digging down a little more coal to make room for the cross bar, when a rock gave way from two slips that formed an apex about 20 inches above the roof line. The place was well timbered. The last cross bar was about $5\frac{1}{2}$ feet from the face and a temporary prop was set, but unfortunately neither of them were under the pot that the slips formed. Deceased was performing his duty when the accident occurred and no one can be held responsible for it.

LIST OF SUCCESSFUL CANDIDATES WHO PASSED THE
EXAMINATION FOR COAL MINE OFFICIALS,
JUNE 18, 19, 20, 1928

FIRST CLASS MINE FOREMEN

Certificate Number	Name	Address
2-28	Bainbridge, James.....	Oak Creek, Colo.
26-28	Berardi, Steve.....	Oak Creek, Colo.
1-28	Berry, H. W.....	Valdez, Colo.
81-28	Bonelli, Joseph.....	Boulder, Colo.
83-28	Bowen, Archibald.....	Morley, Colo.
62-28	Christy, James S.....	Rugby, Colo.
6-28	Cregger, Duard.....	Cameo, Colo.
99-28	Delisa, Frank P.....	Rockvale, Colo.
100-28	Delisa, James.....	Florence, Colo.
108-28	Delisa, Rosario.....	Rockvale, Colo.
106-28	Falgien, John.....	Coal Creek, Colo.
7-28	Garcia, Rudolph.....	Cokedale, Colo.
57-28	Hale, Athel J.....	Aguilar, Colo.
25-28	Harding, Harvey.....	Mt. Harris, Colo.
67-28	Houston, George.....	Lester, Colo.
3-28	Howell, Richard.....	Lester, Colo.
4-28	Manka, Frank.....	Walsenburg, Colo.
87-28	Minnehan, Leo V.....	Lafayette, Colo.
104-28	Morgan, A. W.....	Oakview, Colo.
40-28	Moschetti, Louis D.....	Canon City, Colo.
44-28	Murray, James S.....	Walsenburg, Colo.
5-28	Peduzzi, Joseph.....	Ideal, Colo.
54-28	Prendergast, Frances L.....	Glenwood Springs, Colo.
45-28	Riva, James.....	Durango, Colo.
95-28	Santarelli, Thomas P.....	Baldwin, Colo.
56-28	Smith, William.....	Delagua, Colo.

FIRST CLASS ASSISTANT MINE FOREMEN

84-28	Lemberg, Joseph.....	Lafayette, Colo.
80-28	Little, Thomas.....	Louisville, Colo.
80-28	Lorberau, Ernest.....	Trinidad, Colo.
41-28	Martinez, Fred.....	Alamo, Colo.
101-28	Montgomery, James.....	Tollerburg, Colo.

FIRE BOSS

Certificate Number	Name	Address
107-28	Alexander, Burton D.....	Lafayette, Colo.
91-28	Andrews, Frank.....	Louisville, Colo.
49-28	Arnold, G. O.....	Mt. Harris, Colo.
10-28	Bay, W. W.....	Durango, Colo.
16-28	Beebe, Clarence.....	Valdez, Colo.
73-28	Blckerton, Fred S.....	Colorado Springs, Colo.
13-28	Bodycomb, Hayden.....	Walsenburg, Colo.
60-28	Boken, Steve.....	Aguilar, Colo.
65-28	Bowen, William.....	Mt. Harris, Colo.
79-28	Bowling, Lawson.....	Mancos, Colo.

FIRE BOSS—Continued

Certificate Number	Name	Address
76-28	Bracegirdle, Holland	Erie, Colo.
77-28	Busheff, Nick	Littleton, Colo.
23-28	Campbell, Alex	Walsenburg, Colo.
22-28	Campbell, Andrew	Walsenburg, Colo.
28-28	Carsten, William	Cedaredge, Colo.
94-28	Christy, W. S.	Rugby, Colo.
55-28	Connelly, R. G.	Bayfield, Colo.
9-28	Cosgrove, William	Berwind, Colo.
51-28	Currie, Henry K.	Walsenburg, Colo.
58-28	Davidson, Alex	Ideal, Colo.
78-28	Daniels, Charles C.	Littleton, Colo.
82-28	Dodds, R. E.	Delagua, Colo.
59-28	Dodds, Thomas	Alamo, Colo.
18-28	Edwards, Vinton D.	Chandler, Colo.
72-28	Felthager, Joseph T.	Ideal, Colo.
105-28	Ferguson, James	Delagua, Colo.
90-28	Ferguson, William	Louisville, Colo.
53-28	Fielding, J. O.	Mancos, Colo.
52-28	Fossberg, Gaylord R.	Alamo, Colo.
31-28	Freeman, Roy	Mancos, Colo.
70-28	Gilmore, Earl	Palisade, Colo.
8-28	Harris, Leslie N.	Louisville, Colo.
111-29	Haynes, Alfred	Oak Creek, Colo.
38-28	Heddles, Donald F.	Somerset, Colo.
42-28	Hurst, Clyde	Mt. Harris, Colo.
50-28	Irwin, Edward S.	Alamo, Colo.
12-28	Jakino, James	Durango, Colo.
12-28	Knox, Levi	Walsen, Colo.
86-28	Kuykendall, I. N.	Superior, Colo.
35-28	Llewellyn, Rees	Rifle, Colo.
75-28	Lloyd, Thomas G.	Durango, Colo.
64-28	Madsen, Matt	Oak Creek, Colo.
110-28	Marsh, Walter, Sr.	Trinidad, Colo.
20-28	Michelletti, Joseph	Milner, Colo.
33-28	Mishork, Walter	Oak Creek, Colo.
43-28	Monks, George	Alamo, Colo.
46-28	Monks, John T.	Alamo, Colo.
92-28	Montgomery, William	Berwind, Colo.
34-28	Morley, Joe	Bayfield, Colo.
37-28	Morrison, William	Erie, Colo.
68-28	Muck, Rudolph F.	Oak Creek, Colo.
14-28	McCarthy, J. W.	Pictou, Colo.
39-28	McDougall, Hugh R.	Ideal, Colo.
27-28	McIntyre, W. D.	Oak Creek, Colo.
89-28	O'Neil, Charles	Alamo, Colo.
36-28	Palmetto, Domenic	Grand Junction, Colo.
66-28	Park, Daniel	Dacono, Colo.
74-28	Phillips, Thomas	Palisade, Colo.
47-28	Pierce, Calvin F.	Durango, Colo.
19-28	Pierce, Elmer	Durango, Colo.
30-28	Pinkney, Harry D.	Walsen, Colo.
98-28	Ratkovich, D. R.	Walsen, Colo.
29-28	Richter, Emil	Ravenwood, Colo.
97-28	Simillion, Louis	Baldwin, Colo.
96-28	Spratlin, William P.	Mt. Harris, Colo.
69-28	Swank, Howard	Coalmont, Colo.
93-28	Thomas, John William	Louisville, Colo.
11-28	Thomas, William	Cameo, Colo.
48-28	Toffoli, Victor	Durango, Colo.
88-28	Vidmar, Charles	Mt. Harris, Colo.
85-28	Walls, Virgil L.	Durango, Colo.
32-28	Wambly, Edward E.	Meeker, Colo.
15-28	Williams, Harold	Grand Junction, Colo.
17-28	Williams, Myron	Grand Junction, Colo.
102-28	Wilson, Thomas J.	Bowen, Colo.
109-28	Wilton, John H.	Trinidad, Colo.
24-28	Winner, Clyde	Delagua, Colo.
61-28	Wirth, Vernon J.	Ludlow, Colo.
21-28	Worman, John	Boulder, Colo.

